SOCIAL TENURE DOMAIN MODEL

In the context of Participatory Enumeration and Settlement Upgrading

USER GUIDE

VERSION 1.0

UN-Habitat/GLTN

2014

Securing land and property rights for all

What's new in this version

Flexible data entry forms: It is now possible to create or modify the data entry form to conform to your data requirement and needs. This makes it easier to quickly innovate and customize the basic capabilities using an intuitive wizard. It is important to leverage demand from different projects with minimal software changes cutting down time and cost for customization. With flexible forms, you can generate data management modules easily and automatically translate them to database tables and views. It is also possible to specify data category for questions with choices which can be transferred between projects.

Role based data management: Access to data management modules is now possible with restricted permissions based on the user roles. The roles can be elated or downgraded selectively using a compact content management tool which is only accessible to the administrator.

New UI: An advanced, intuitive look and feel glossy design in the menu and the user interface is easily noticed in this version. The menu and tool bar have been simplified for easier and quick access to the data management modules. Keyboard shortcut has also been incorporated for key modules.

Improved document generator: The new document designer is enabled within the QGIS composer framework. Users have access to full functionality provided by QGIS composer for the design of map output, spatial relation document ("certificate") and charts using data in the STDM database.

Social Tenure viewer: As the core of STDM, this feature has undergone full overhaul allowing flexible and explicit definition of relations among various entities. The viewer and designer dialogs can be accessed separately.

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Introduction

The Social Tenure Domain Model (STDM) is a pro-poor, gender responsive and participatory land information system developed by the Global Land Tool Network (GLTN). It is one of eighteen land tools being developed, tested and applied by GLTN partners to promote secure land and property rights for all.

STDM, as it stands, has the capacity to broaden the scope of land administration by providing a land information management framework that would integrate formal, informal and customary land systems and administrative and spatial components. STDM makes this possible through tools that facilitates recording of all forms of land rights, all types of rights holders and all kinds of land and property objects/spatial units regardless of the level of formality.

Core Values

STDM's core values and principles are pro-poor, good governance, equity, subsidiarity, sustainability, affordability, systematic large scale, and gender responsiveness.

The STDM Universe

The STDM Universe consists of an extensible data model, conceptual and operational model, database implementation, software modules and an extensible architecture.

Within this universe, it incorporates four inter-related components:

1. A new way of thinking about land records
2. A free and open-source software package to record information about land
3. An approach of collecting data about land
4. A way of using and disseminating information about land

Using this help

This guide provides technical run through of the current version, 1.0. In line with the conceptual model, the technical implementation of this version has commensurately adhered to the core principles and those of the predecessor's versions as stipulated in LADM design. The choice of words and/or names on some GUIs depicts applications context primarily and are bound to change later.

To appreciate use of this guide and the instructions given, the assumption is that you are using the tool for the first time planning to work on a new database for data management running on PostgreSQL server. Therefore as a first step, the user need to configure the tool before any other action/ activity can be done. The configuration is done though a configuration wizard which is accessible after login in.

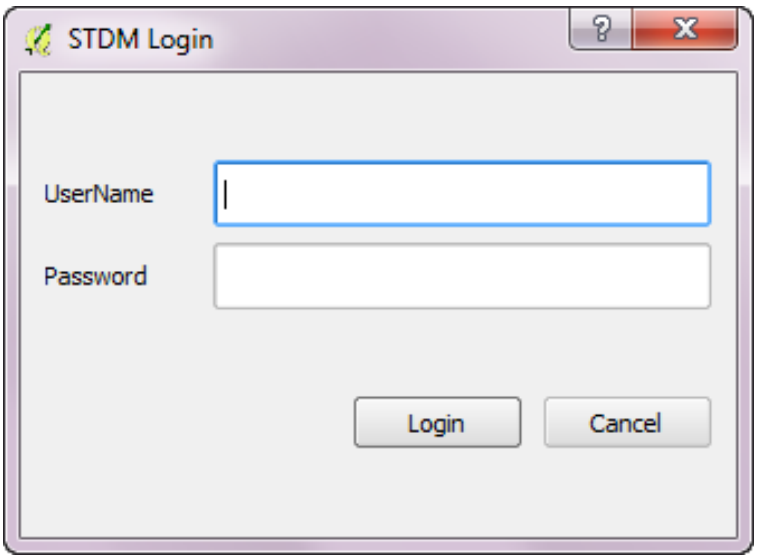
Accessing the user manual from the software

This help file can either be viewed on-line or off-line when installed with STDM sotftware package. The latest version of the documentation can also be obtained online http://www.stdm.gltn.net/?page_id=36

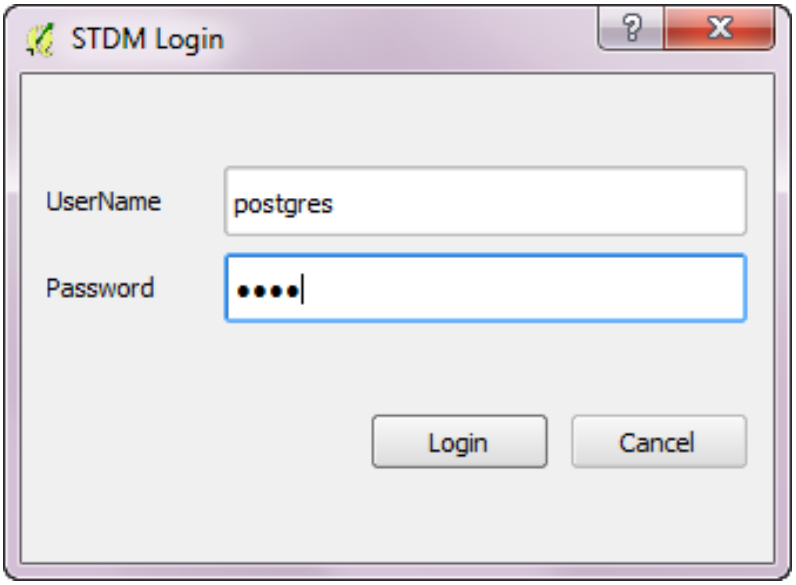
Log in procedure

Log In

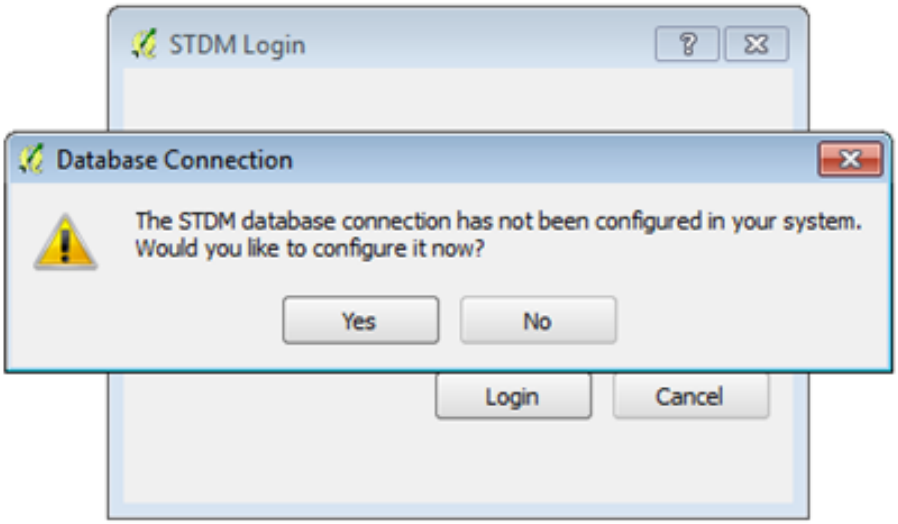
To log in to the STDM, click the login button . This will prompt a login dialog where user is required to provide the login information.



A login dialog will popup. the user should start a session by providing login credential using the default user created during installation of the software.
For the username: (default) = ***'postgres'***. Administrator can change the username later.
Password: Provide the password created during installation procedure.

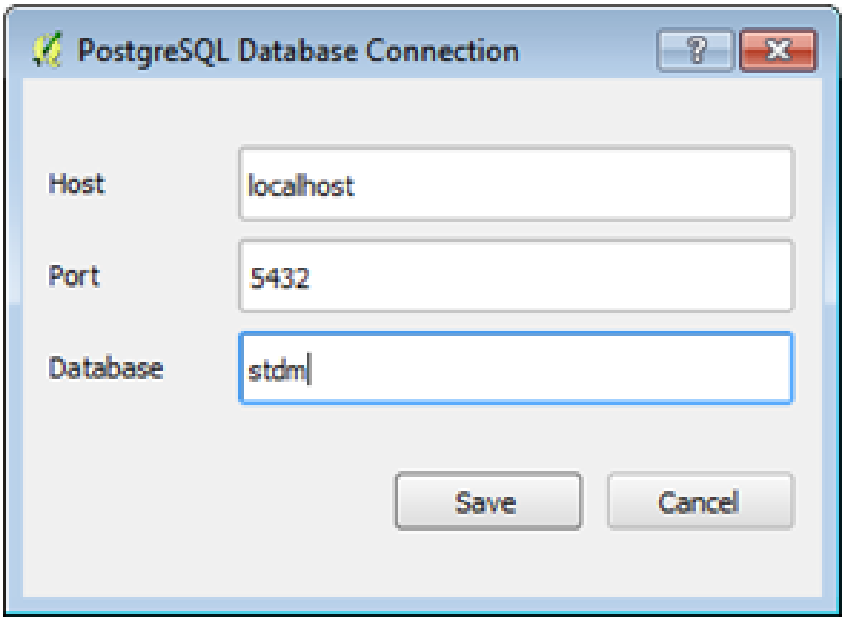


Then, click on Login or hit Enter button on the keyboard. The cancel button in the wizard will cancel the login procedure.



For the first time login, the above dialog appears, this is a prompt to setup the server connection parameters that STDM will use to interact with your database.

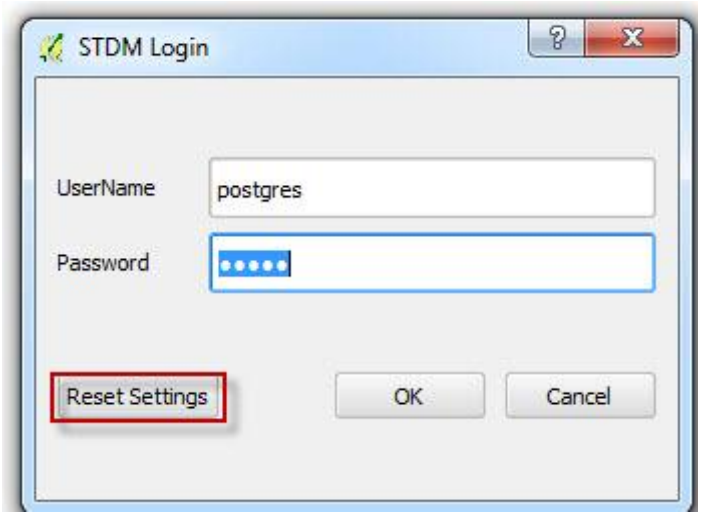
Click yes to enable the settings dialog to load.
The server settings include;
1. Port; Port is the default access port for postgreSQL server, i.e 5432 or 5434.. this was specified during the installation procedure.
2. Database name; stdm is default, any other database the user has created. postgis extension must be created/ added in the database.
3. Host: host is the server location, if LAN setup provide IP address of the server else, provide local host for local computer (one computer). I.e "localhost"



Click save button

Then, click on Ok or hit Enter button on the keyboard. If successful the dialog will dis

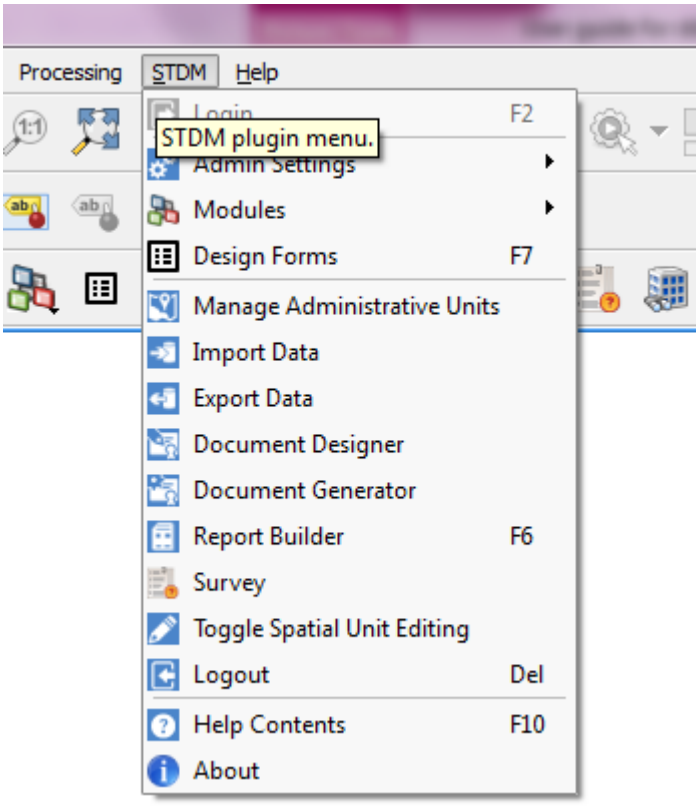
appear, else the login dialog will persist with an error. **Reset Settings** button will be visible to allow to you edit the server/ registry settings. Click this button if you need to edit the server setting saved in the registry.



For successful Login, the tool and STDM menu will be populated with STDM tool command icons.

Toolbar:

STDM Menu:

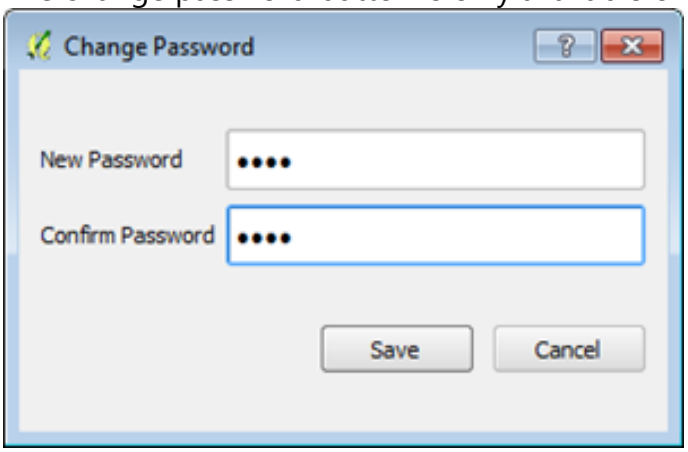


Log out.

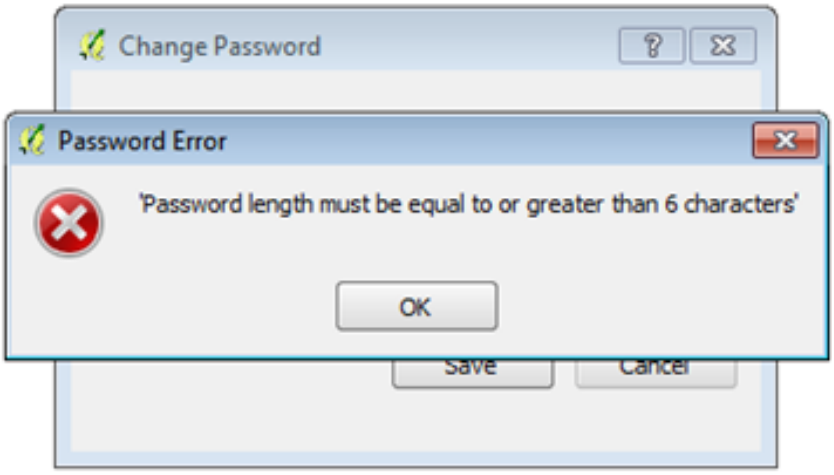
To log out of the QGIS wizard, you must be logged in. Click the logout button . This immediately logs you out of the STDM system and the STDM command buttons disappears.
From here the log in button will be available for a later login.

Changing password

To change the login password, click on the change password button . This will prompt a change password dialog.
The change password button is only available once a user is logged in.



The user is required to input a new password and its confirmation. Then click on the save button for the new password to take effect. This is the password to be used on the next login.
If the login password created has characters fewer than 6, the message bellow will appear.



This is due to the password strength. The more characters on a password the stronger it is to avoid being compromised. Click the OK button and set a new password that has 6 or

more characters

Configuration for first time use

Ensure you are logged in, if not follow the instructions provided in the login section.

The configuration interface consists of -:

- Title panel- which reads the title of the main page
- Main panel- provides the functionality of various controls that user interacts with while setting up the main plug-ins.
- Navigation panel – provides controls for progressing or going back in the configuration steps. Help buttons loads the help file document.

Setting up configuration file

First time installation comes with empty database that needs to be populated with the default schema and tables. As a first step, STDM needs to configure a start-up file before any other action is engaged in the plugin menu. To do this, configure the data entry forms and profile using the Design Forms wizard.

The configuration file can be edited manually but requires basic understanding of xml file structure. The wizard allows you to edit the file without worrying about the background activities.

NOTE: It is not advisable to remove the core modules provided in the configuration as this may affect other settings which may take time to configure for basic users. Extending the modules and/ or editing of the field is allowed and better done through the configuration wizard. The core modules are (person/ party, spatial unit, social tenure relationship and supporting documents).

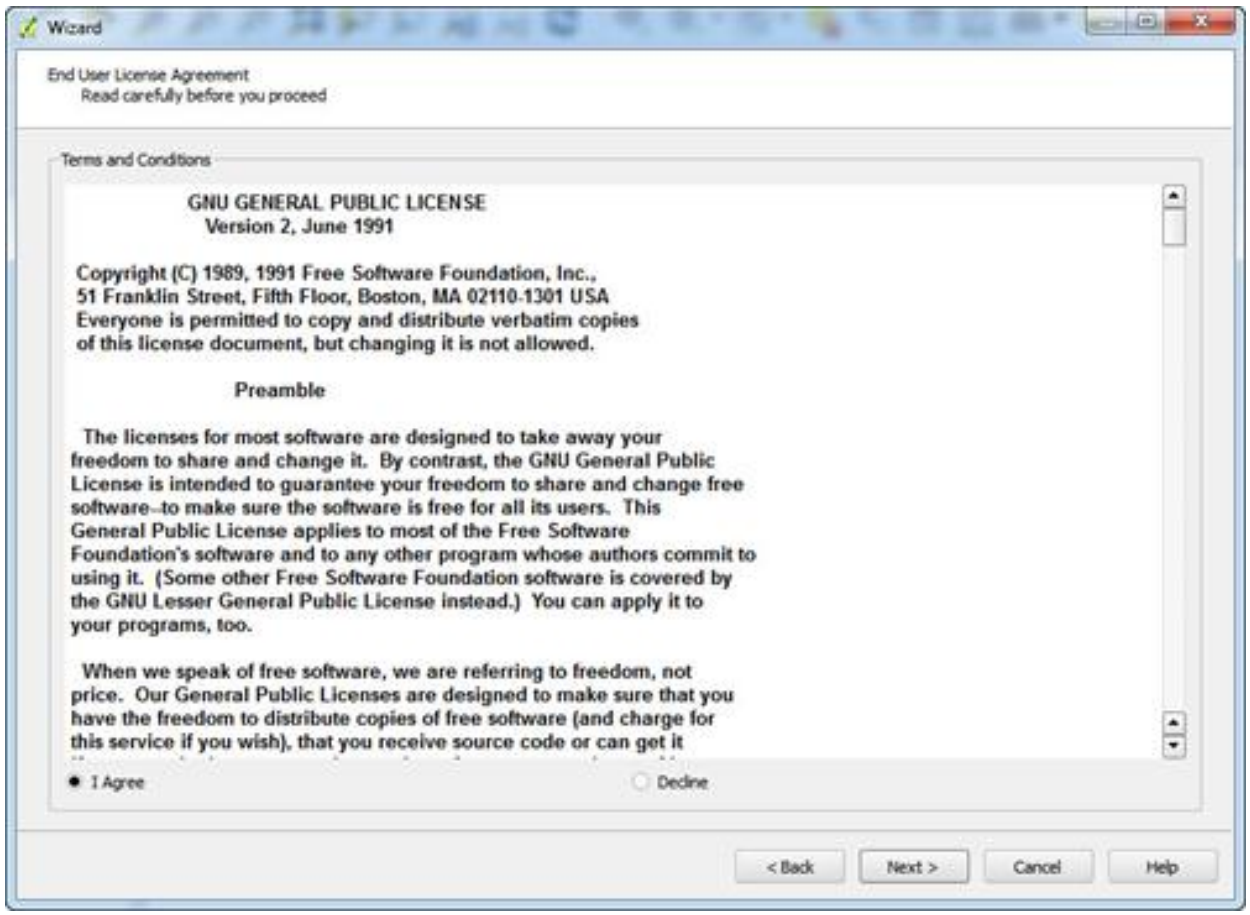
Procedure for configuration:

1. Click the *STDM plugin menu* and select ***Design Forms (***or Press F7) to launch the wizard.

2. On the wizard dialog, click **Next**.

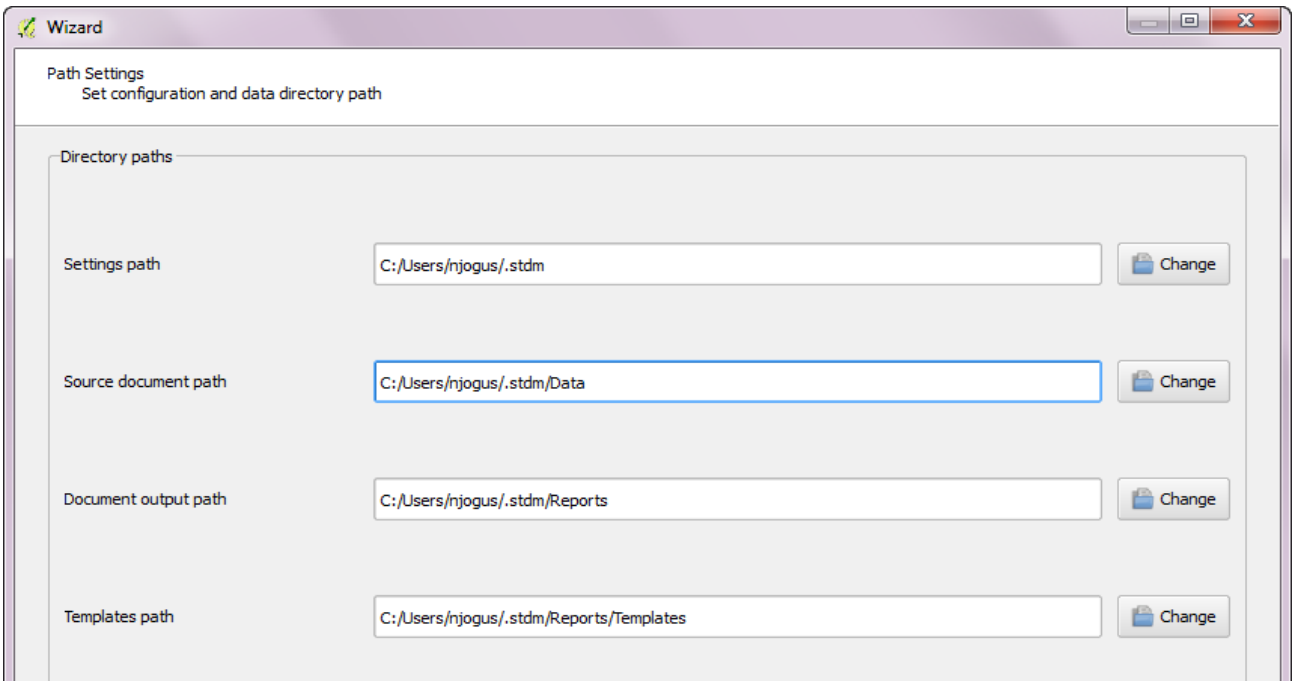
3. On the license page, read through the license carefully before you proceed.

4. Select **I Agree** and click **Next**


Wizard
End User License Agreement
Read carefully before you proceed
Terms and Conditions
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991
Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
Preamble
The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.
When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
I Agree
Decline
< Back
Next >
Cancel
Help

In the instance where the user fails to agree to the terms and conditions, he will by default i.e by not agreeing or declining, the plugin will be disabled and unavailable for further use when the Quantum GIS window is closed.

Click next to continue, the next interface that appears allows the user to set up the settings and data paths. These paths are necessary and are required by other plugins module. However, if the paths are shared in the network (LAN) environment, administrator needs to secure the paths to avoid duplication and multiplicity from different computer. The configuration need to be done at host computer and client computer points their access to the created paths. You need to exercise cautions as blunders could lead to data loss or integrity issues.



Windows users can use the default path. For Linux and Mac this may require to be configured manually. Click next to proceed the next page

In the next step, user has the option to create, delete or use the default profile provided.

Creating new data profile

Profile: A profile in STDM tool refers to a description of a survey or forms of survey based on a particular data collection methodology and therefore the methodology workflow need to be customized within it. A profile will consist of entities/ modules I.e. objects to be described which are captured as database tables. Attributes for the identified entities are captured as column or data fields for the tables.

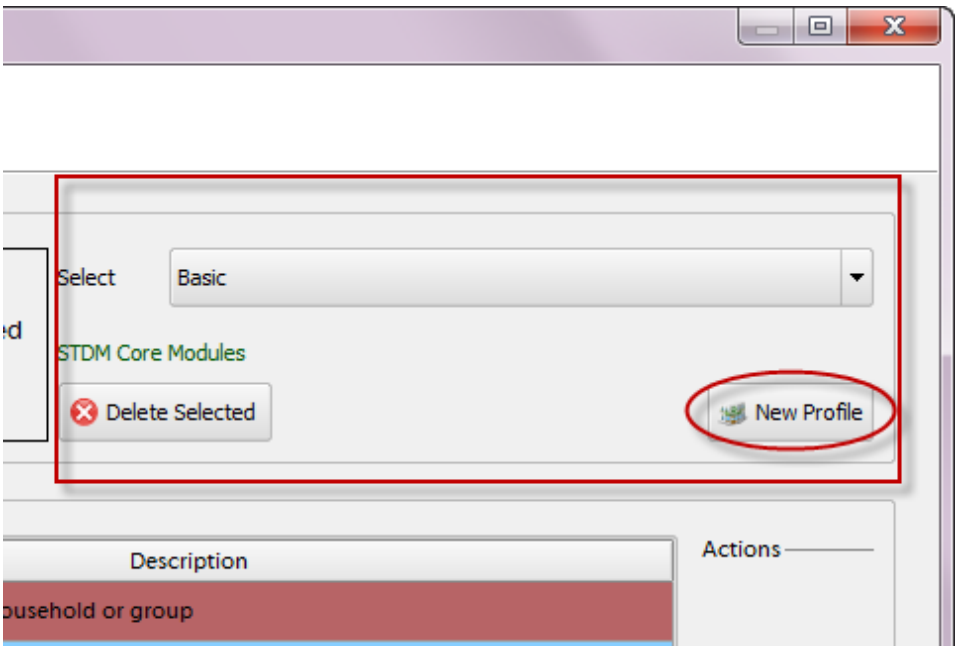
This version comes with a default profile "Basic", that users can use or extend by adding more modules or attributes to the defaults modules.

New Profile button circled in red below creates a new data profile level. You are prompted to provide a profile name and a profile description in the profile editor dialog.

The profile name should be short and a maximum of three words.

An example would be; Profile Name: Municipal Baseline Information.

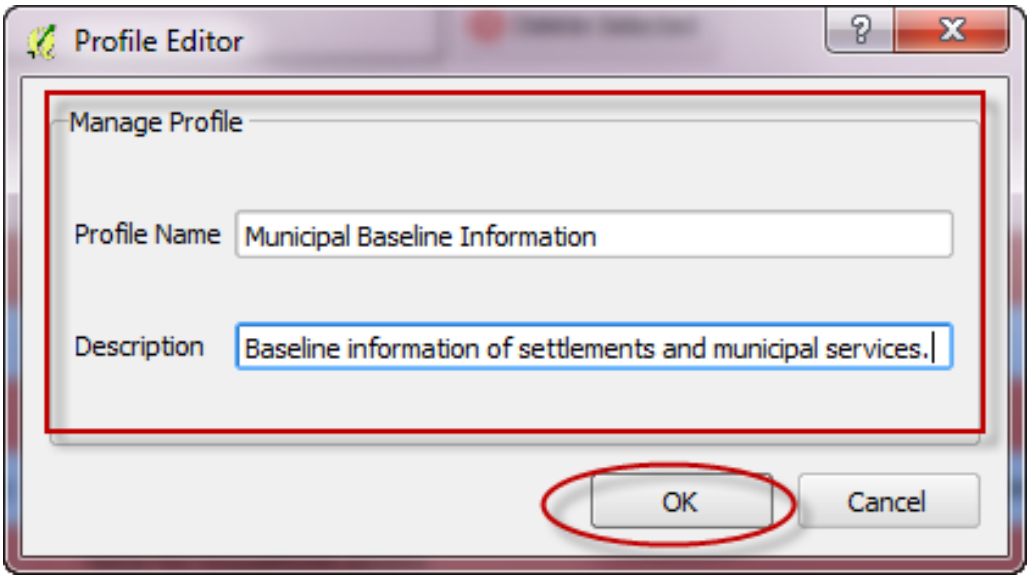
Description: Baseline information of settlements and municipal services.



Creating new Profile:

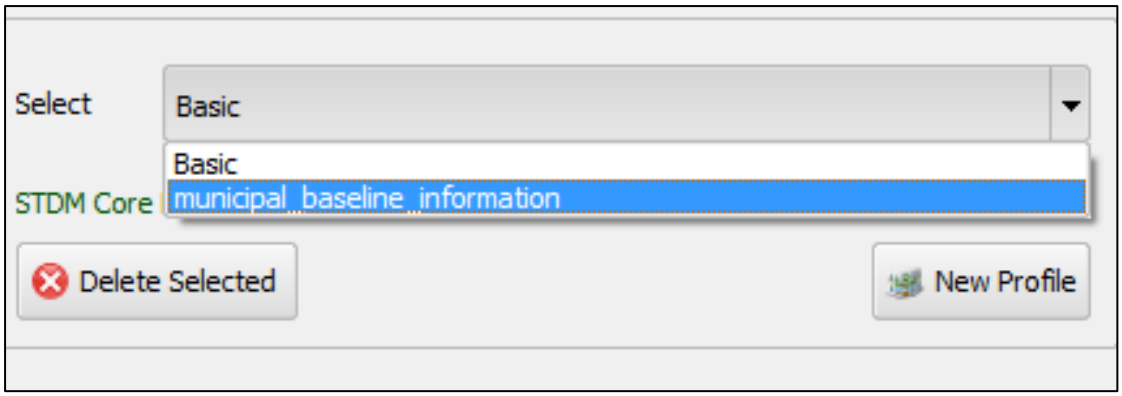
Click New Profile.

Add profile name and profile description.



Click **OK** button on the dialog to add the profile in the list.

The created profile has no tables. And so no data can be collected or saved in the database.



The profile name is formatted when you save. All the white spaces are replaced by underscore and transformed in small caps.

The profile name appears in the list of profiles. You can create multiple profiles each with different tables and attributes. However, different profiles cannot share similar table names. Table or module names should be unique and cannot be duplicated.

The **'delete selected'** button removes the currently selected profile together with its tables and modules.

To use the created profile, you need to select it from the list. By default, "***Basic***" is the default profile. This profile is basically configured as the lowest level of survey where data collection is done at individual level (household). For such kind of work, you don't need to duplicate with another, use basic instead.

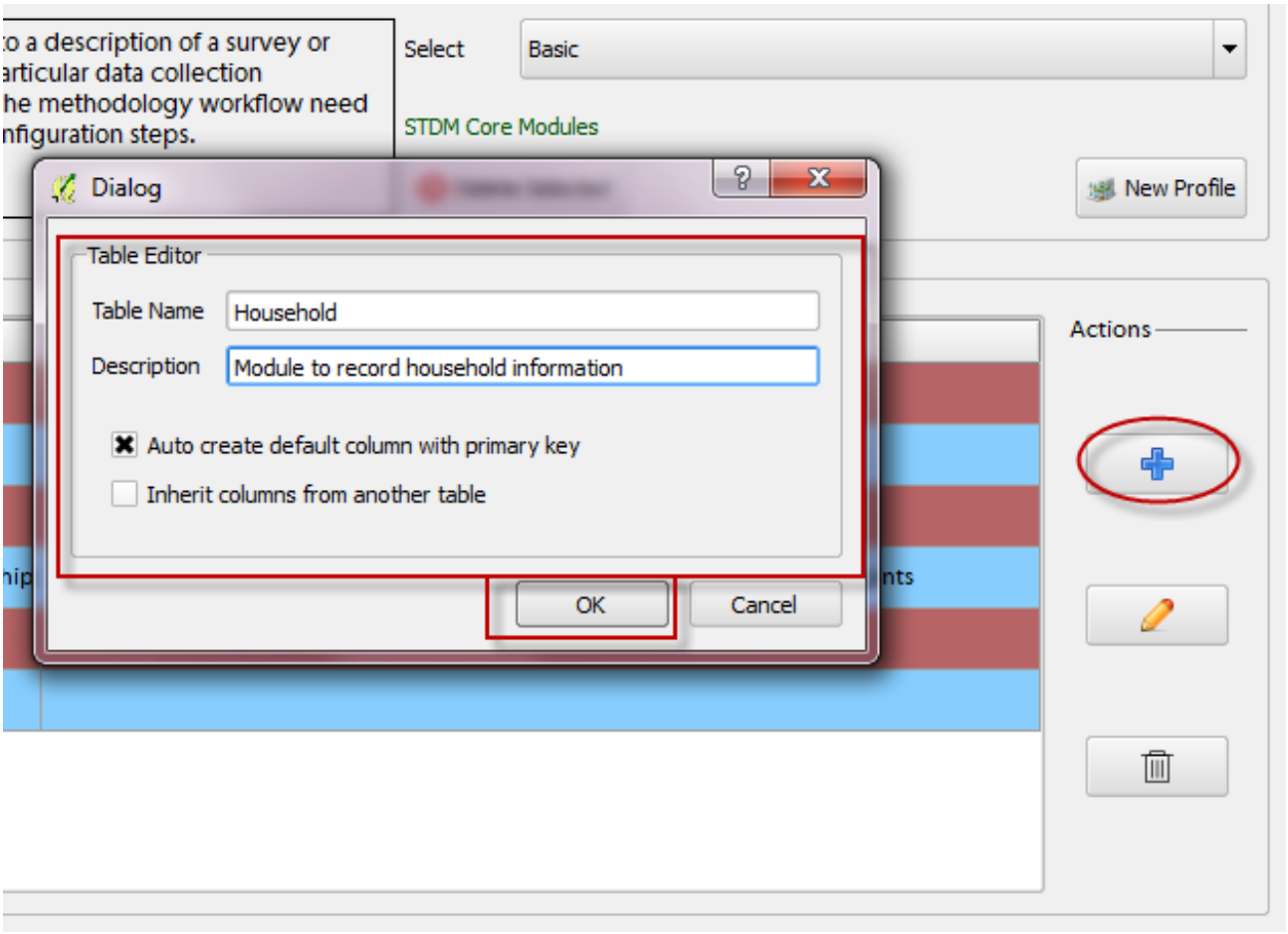
The current/ selected profile will be saved as default profile to be loaded everytime STDM is launched. To change the profile, launch this wizard and at profile options,select the required profile. Click Next and configure as necessary or exit.

Profile Modules/Tables.

Under this profile, modules or tables are created in the profile modules sections.

User creates the modules and tables by clicking the 'add' button.

For the purpose of this illustration, the default profile-Basic, will be used.



The add button prompts an information dialog to pop up that requires the user to input the table name and the table description. This information will provide a basis upon which columns for the table will be created.

For purposes of the example provided above;

Table Name: Household
Description: Module to record household information

Click **OK** to create a table.

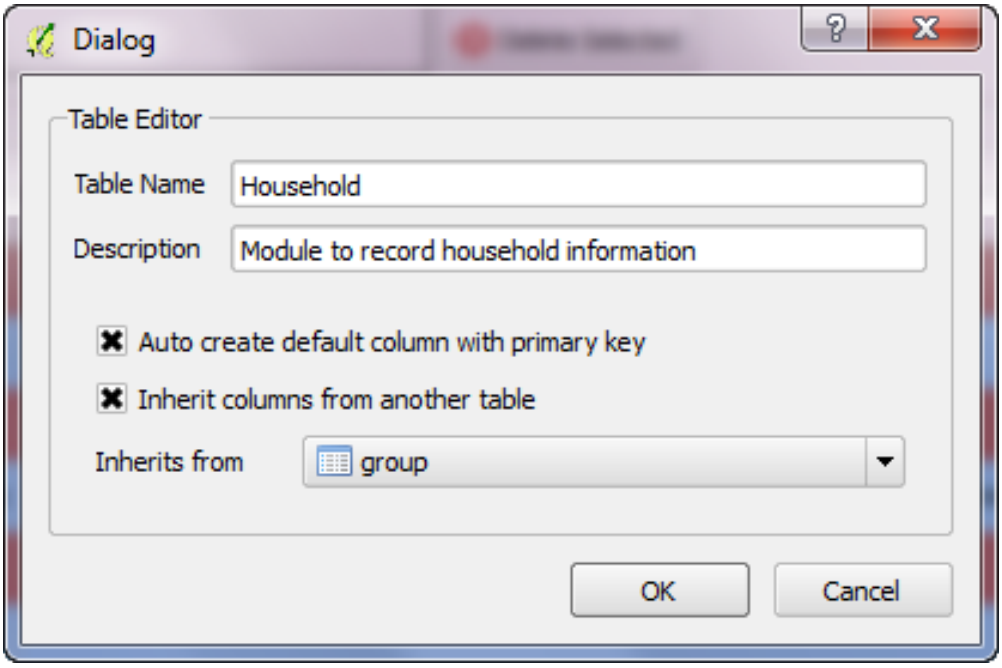
The table description appears beside the table/ module name in the module table view.

The user can add many tables as required under a selected profile following the same steps.

Auto create default column with primary key automatically create a primary key field in the table definition and the user doesn't need to add additional primary keys.

Inherit columns from another table: Adding a secondary or subsequent table provides the user with an option of importing columns from an already created table if the intended table is to contain columns that are similar to the existing table. This avoids repetition when creating tables. To do this, check the box circled in red above(inherit columns from another table).

From the example, the 'water points' table may inherit columns from the already existing 'services' table as water is a service and the same common attributes.

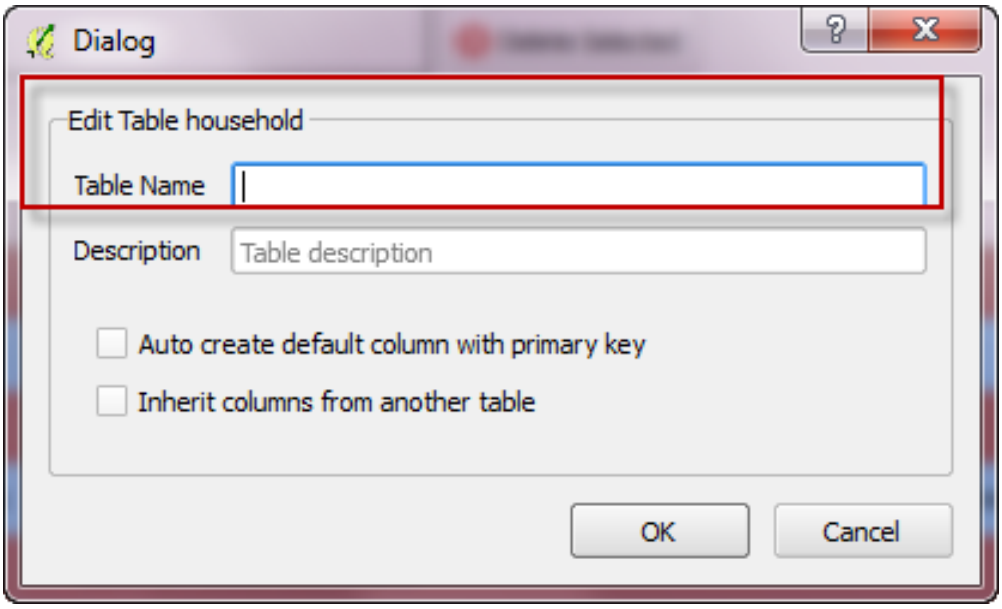


The primary table must be created before the inheriting table. The user must then select the table from the combo box.

Click **OK** to create the subsequent table.

The edit option.

The Edit button enables you to rename the table already created. To do this, highlight a certain table then click Edit. This prompts an edit table dialog box, from here user can make changes and corrections on the table name.



Once all the changes are made, click the **OK** button for the changes to take effect.

The remove option.

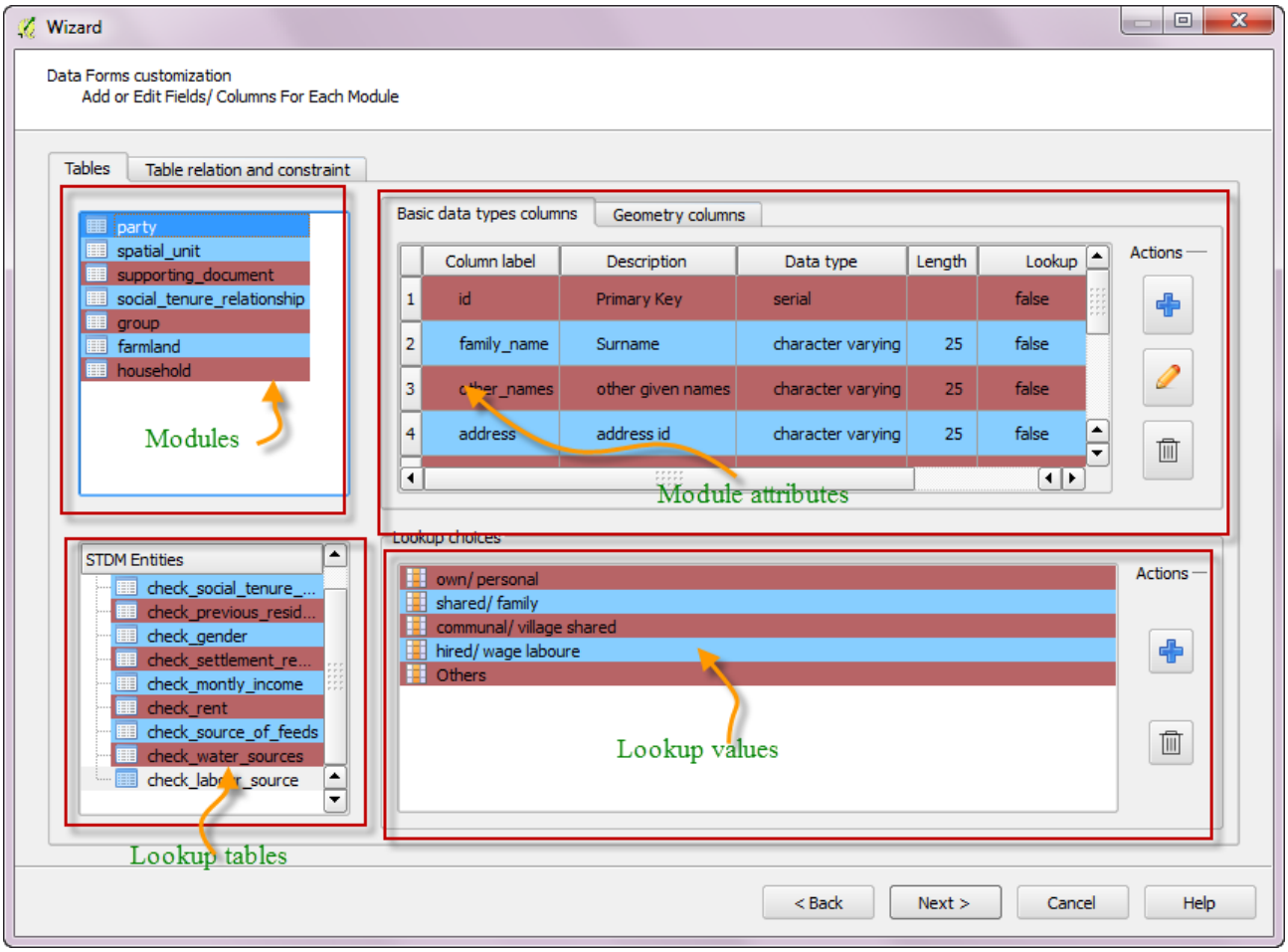
The remove button deletes an already created table. This is done by first highlighting a

table that the user intends to delete, next click the remove button and this deletes the selected table.

If no table is selected on the profile wizard and the remove button clicked, a warning dialog pops up with the message that no table is selected as shown below.

Once done, click Next > button to move to the next interface for configuration.

Module/Table configuration.

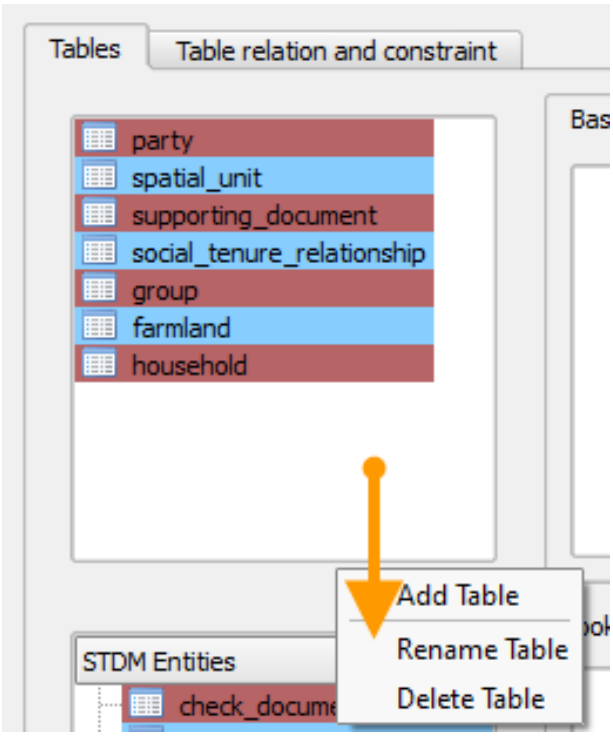


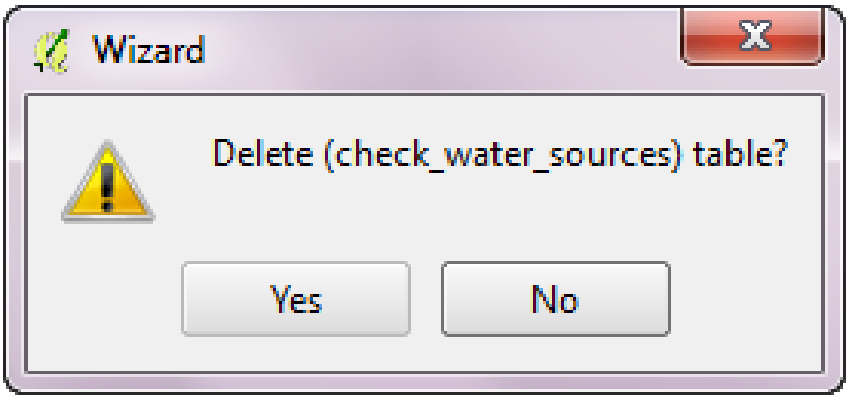
On this wizard the user makes changes to the table's columns. By clicking the add button, user adds a column name, fixes the description and the data type.

Note: columns names should be unique (User should not create an additional column with the same name)

Also, the ID column should not be deleted (The primary key column should not be deleted).

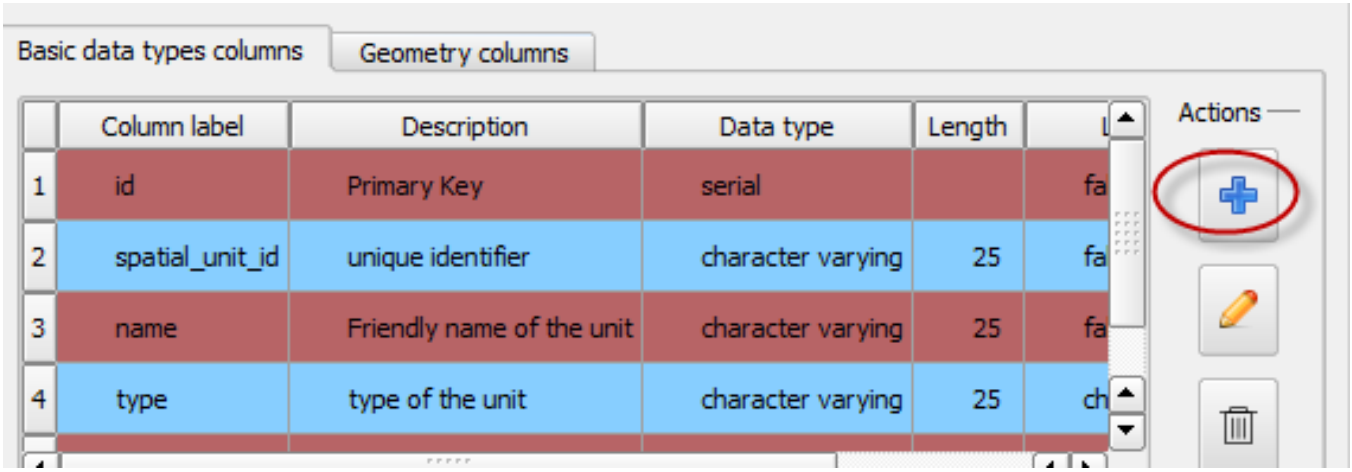
The user can also delete, edit or remove module or lookup table by selecting the table to be deleted and right clicking inside the module's display panel. A pop up menu is enabled and the user selects the actions accordingly.



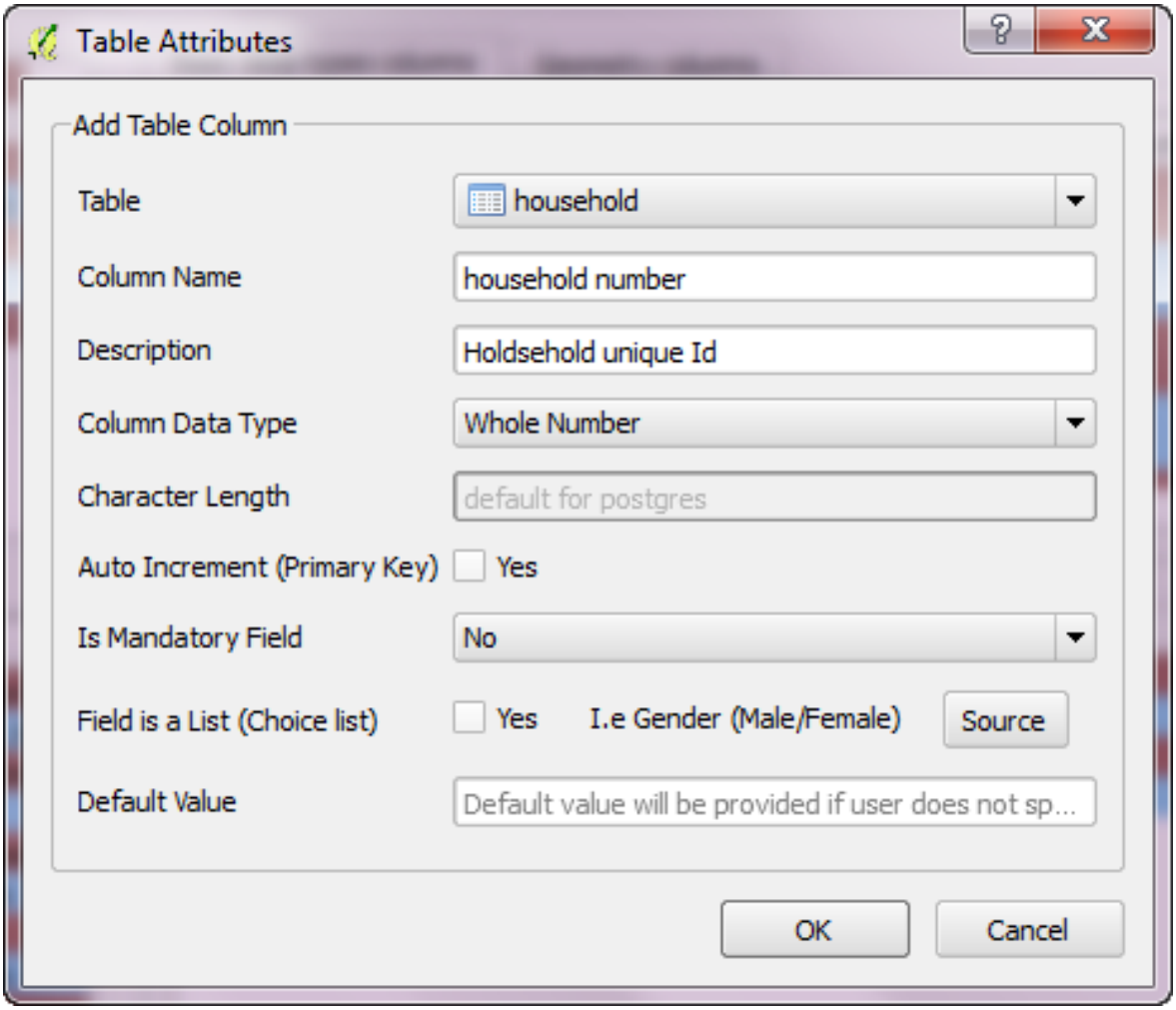


Adding Table Attributes

Click the Add button as shown

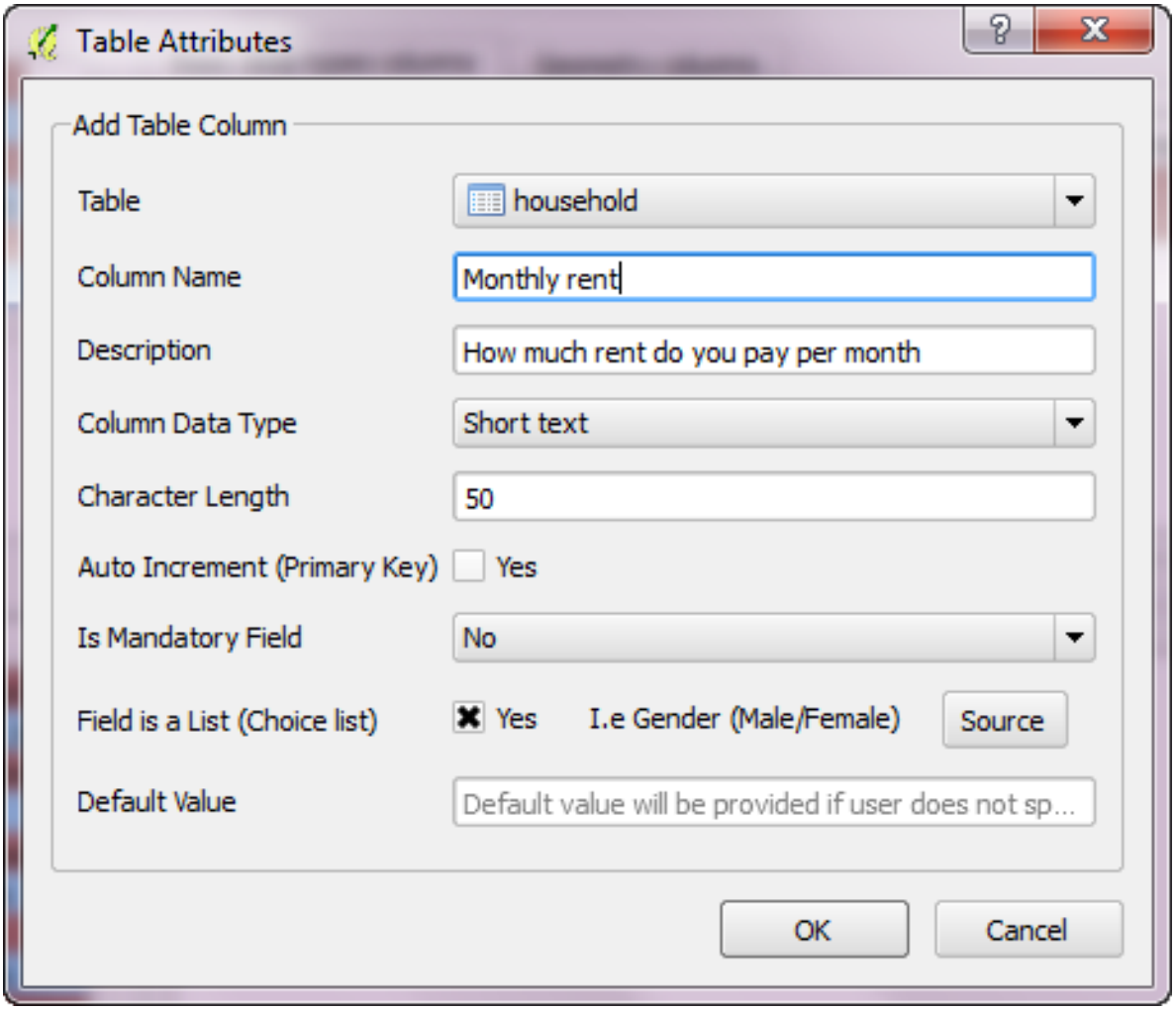

Basic data types columns
Geometry columns
Column label
Description
Data type
Length
Actions
1 id Primary Key serial
2 spatial_unit_id unique identifier character varying 25
3 name Friendly name of the unit character varying 25
4 type type of the unit character varying 25

- On the pop up dialog, the user can fill in the various attributes that are required as the table columns. The drop down option shows 'table' list which the user has an option to select. By default, the selected table is activated on the table attribute dialog.
- Next, you input a column name and its description on the subsequent control.
- The 'column Data Type' control enables the user to select the form of data to be entered in the column. You select one option from the list on the drop down list. This may vary from long integer, long text to short text. The choice of this data type will depend on the current profile selected and the type of data to input on the form.



- The column data type selected from the choices provided will determine the next attribute of character length.
- By default, postgresql determines size of memory allocation for some data types, therefore activating such data types, will disable the character length control. Only on the 'short text' selection that the control is enabled to input the size limit. By default, a size limit (character length) of 50 is pre-defined.
- Auto increment option is not necessary, unless for advanced users
- Is mandatory Field means the field entry cannot accept empty (Null) values, by default is No.

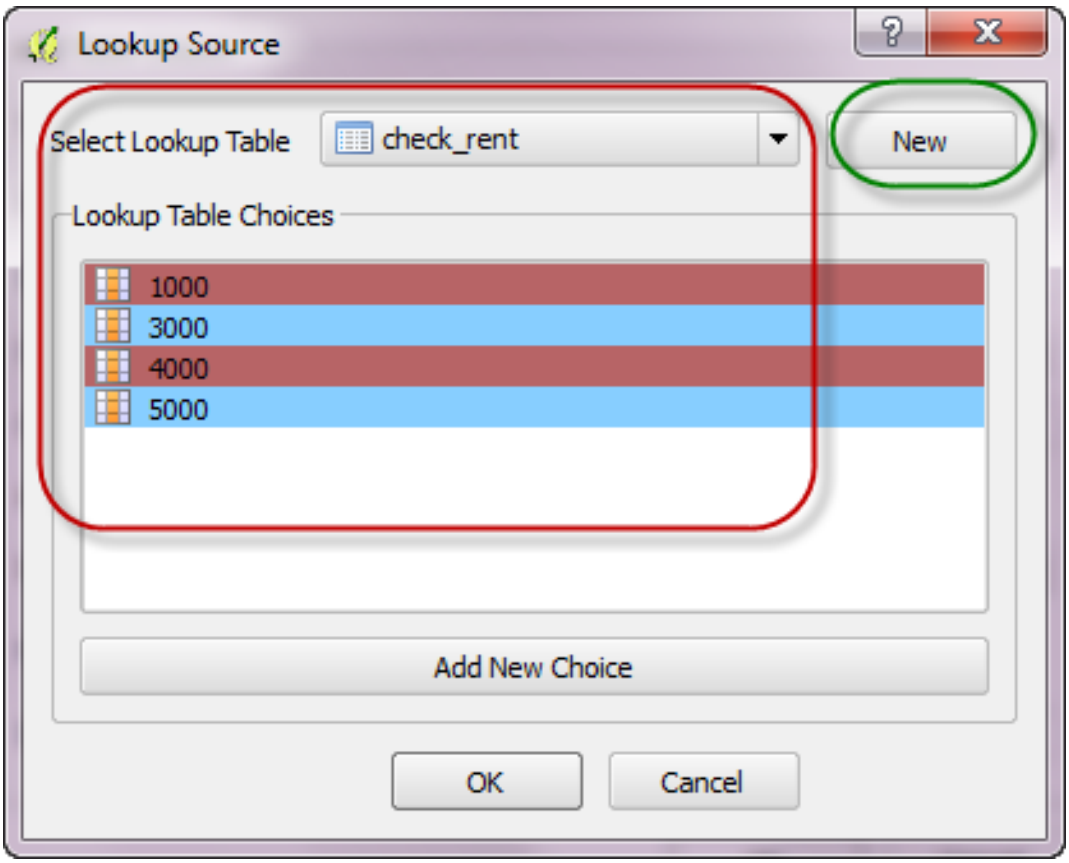
- Field is a List means that the user will be provided with a choice list option to select values from the list. The list has to be defined.
- Default value means the value that shall be used in case no new values are entered for this column/ field.
- Note: if the field is unique and is a combination of text and numbers, short text is preferred as data type to avoid any constraint errors.



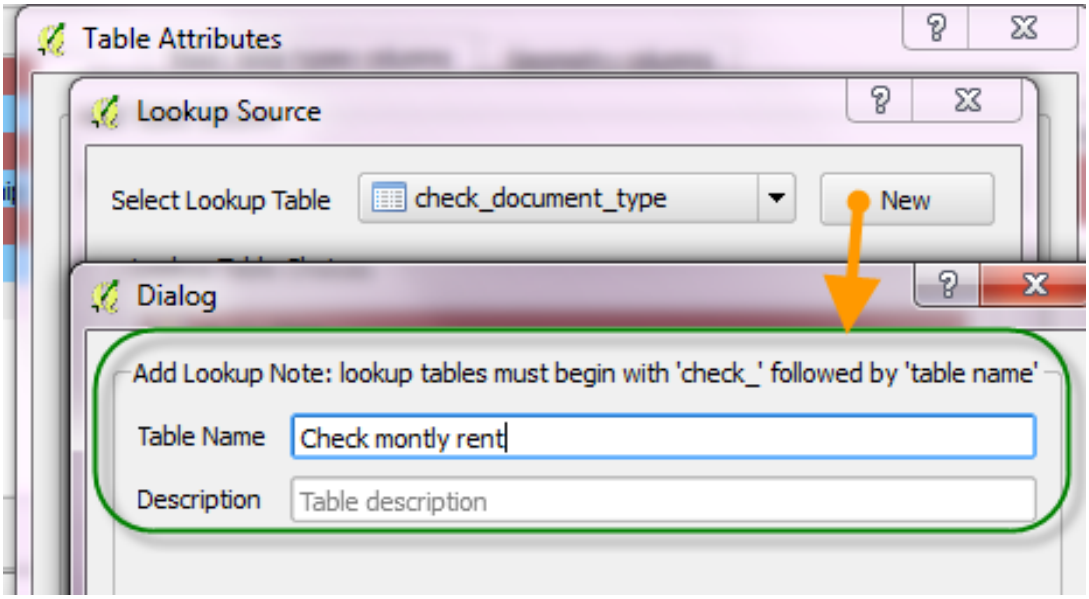
- The Character length option is only available on the 'short text' option.

Defining lookup table and values for a particular field/ column

1. On the Field is a List (Choice list) option, check the box to indicate that the lookup table is expected. Then click on the source button.
2. A lookup selection dialog pops up.
3. Select the lookup to be used and click okay.
4. If the desired lookup does not exist, Click **New** Button



Adding new Lookup table

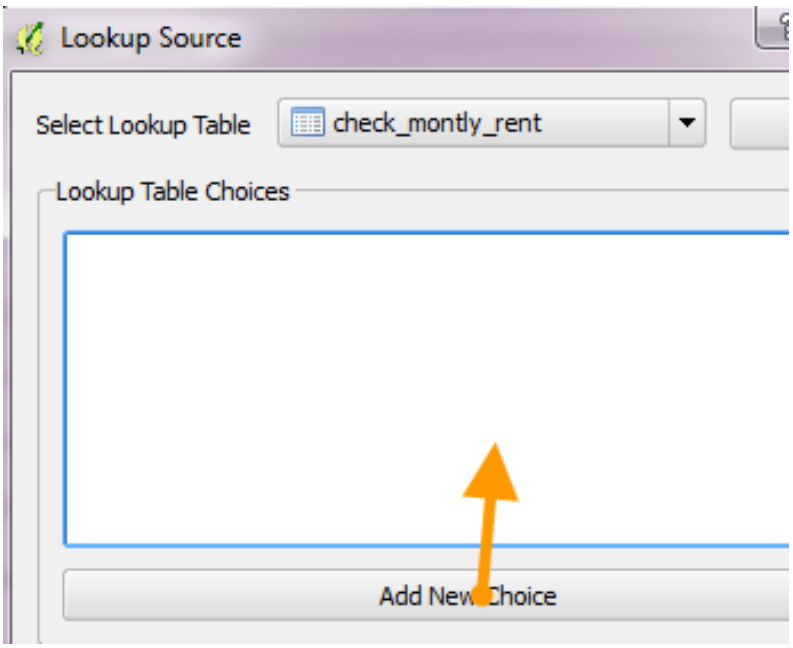


Adding lookup choices

Ensure the table is selected on the drop down list

Click add new choice button and enter the lookup text.

New lookup text can also be added at the wizard page on the lookup values panel.

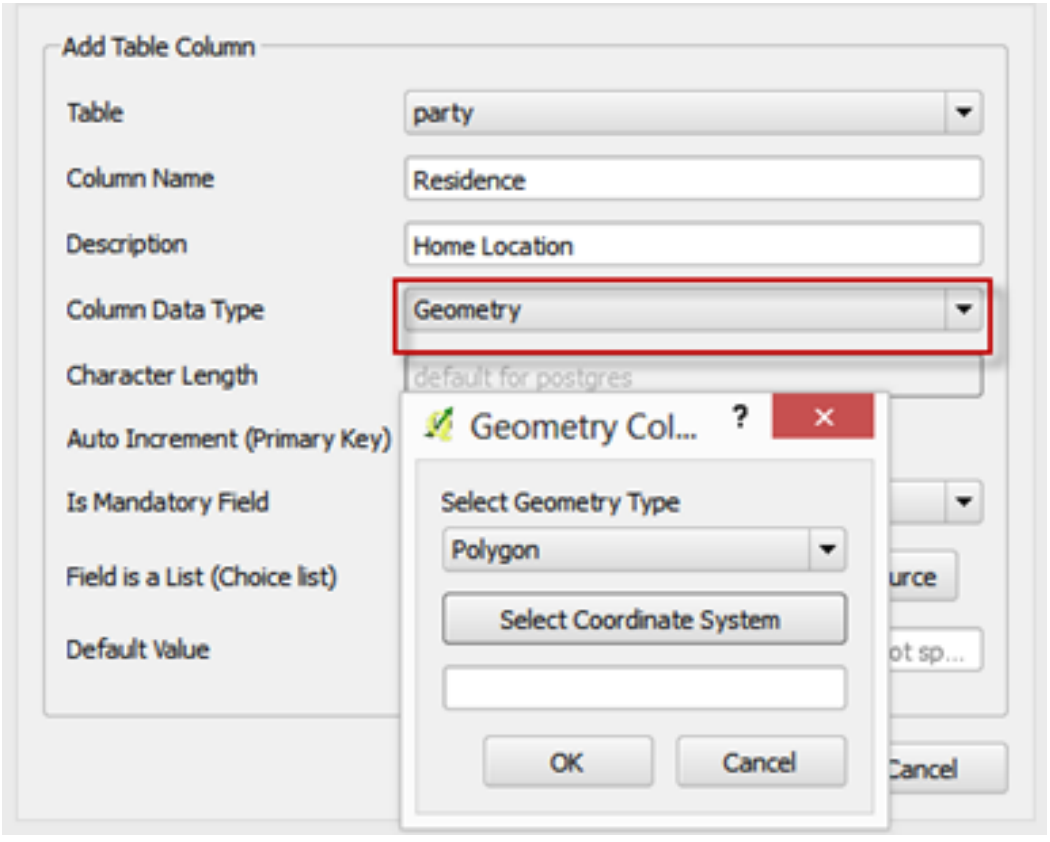


Click Ok to dismiss this dialog and save the lookup table

Click Okay on the Table attribute dialog to save the new attribute data.

Lookup table appears on the bottom left corner of the table wizard page.

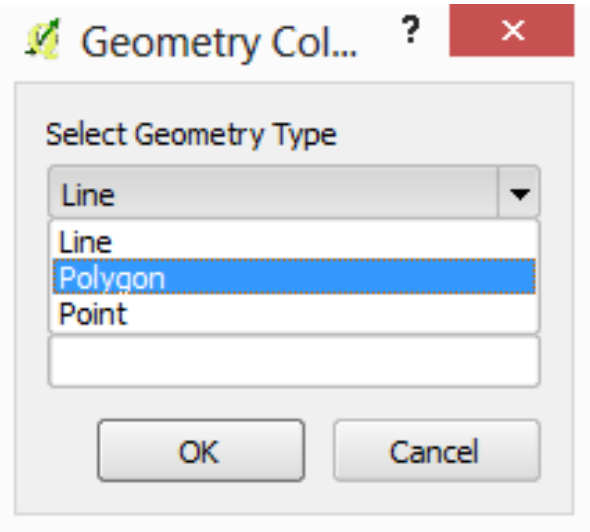
To add another attribute, click the add button and follow the same steps as above.



Geometry Configuration.

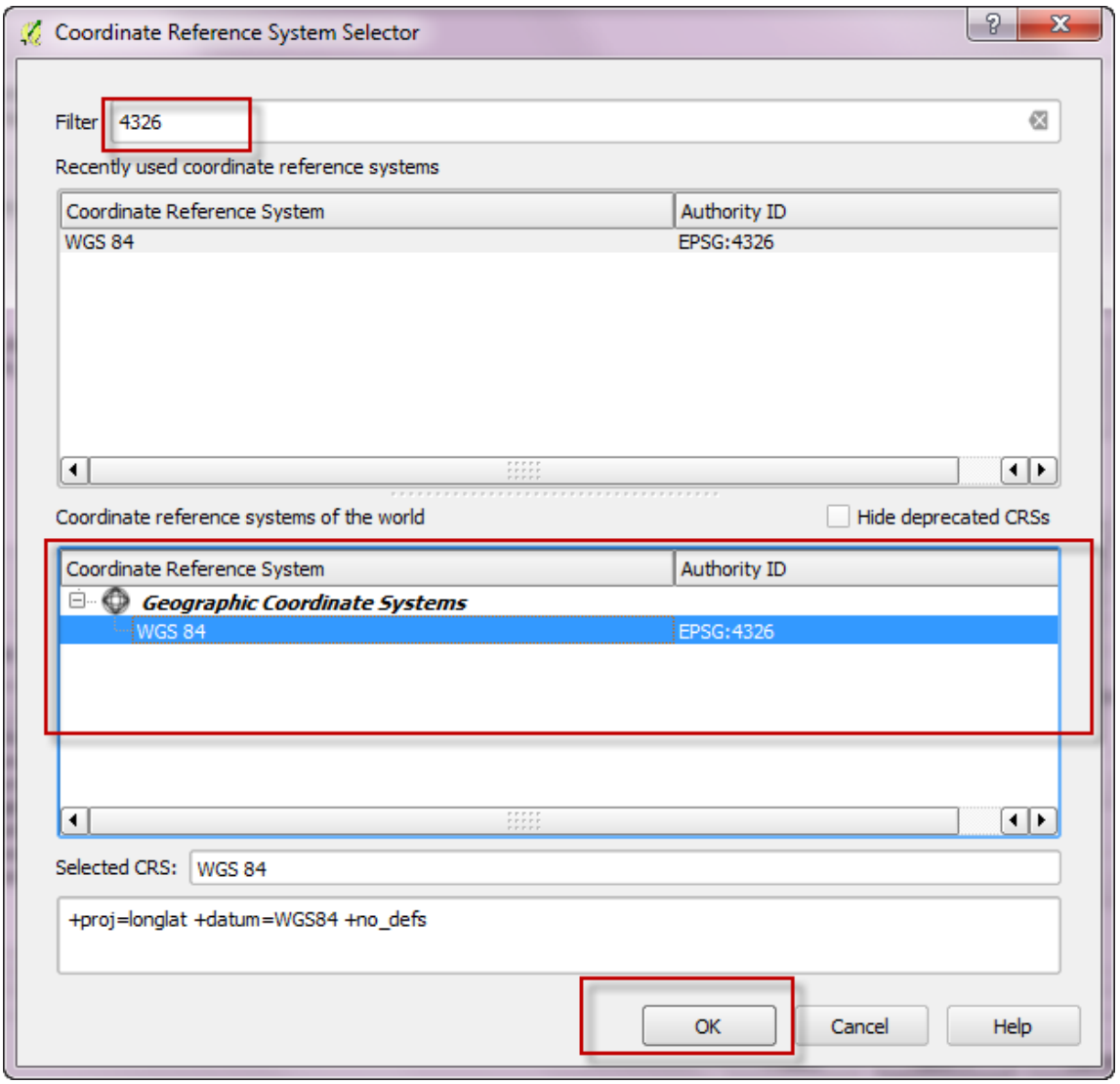
- However, if the column data type is a geometry, selecting Geometry will automatically prompt a geometry definition dialog, you need to select the geometry type from the drop down list on the dialog.

- The option maybe a line, a polygon or a point and this will depend on the geometry type of the data to be collected. I.e. GPS data to be imported to this table, you need to select point geometry as the GPS will give you waypoints (X,Y). For structures or parcels of land where at least three points are collected, you select Polygon.



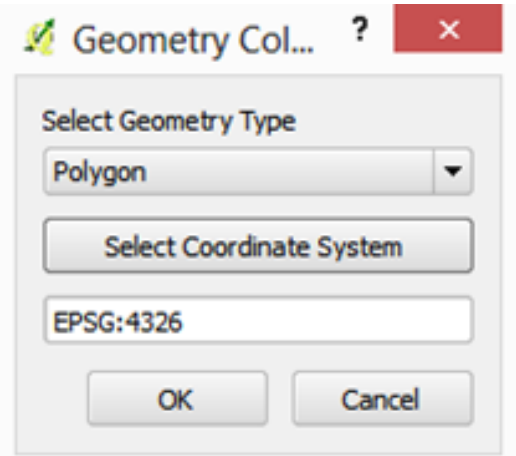
- Coordinate system selected by default is WGS 84 (the world geographic system) with ESPG ID 4326. If you are not sure of the data of the projection, it is recommended to use the default as provided above. For you to access the coordinate reference system selector, click on the button

. This will prompt a dialog with a list of various coordinate references.

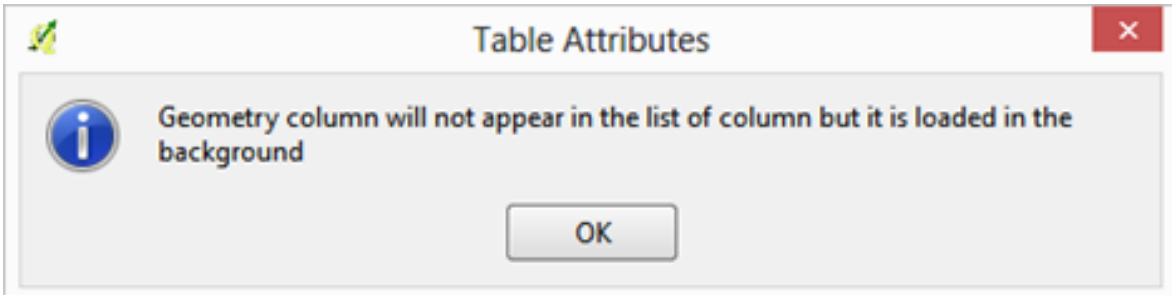


- Custom projection can be defined if known from coordinate reference system selector dialog. The selected coordinates will appear in the area boxed in red above

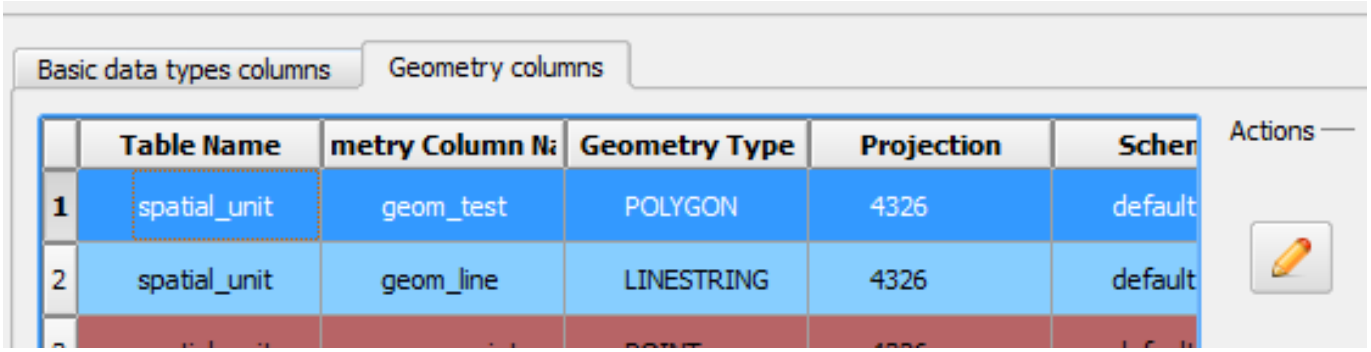
Once you are done filling in the attributes, click on the **OK** button so as to create the new column.



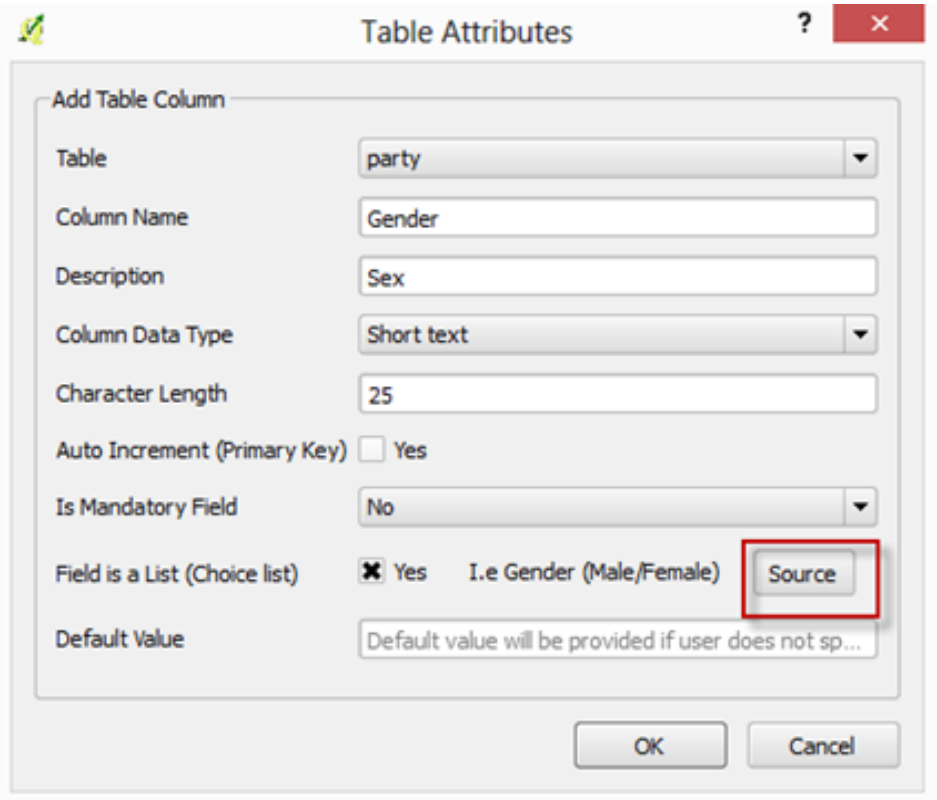
- The geometry dialog now appears with it coordinates as shown above. Click **OK** to effect the applied changes The Information dialog shown below will appear informing you of the actual location of the geometry column created



The geometry columns appear on the second table of the attribute panel.



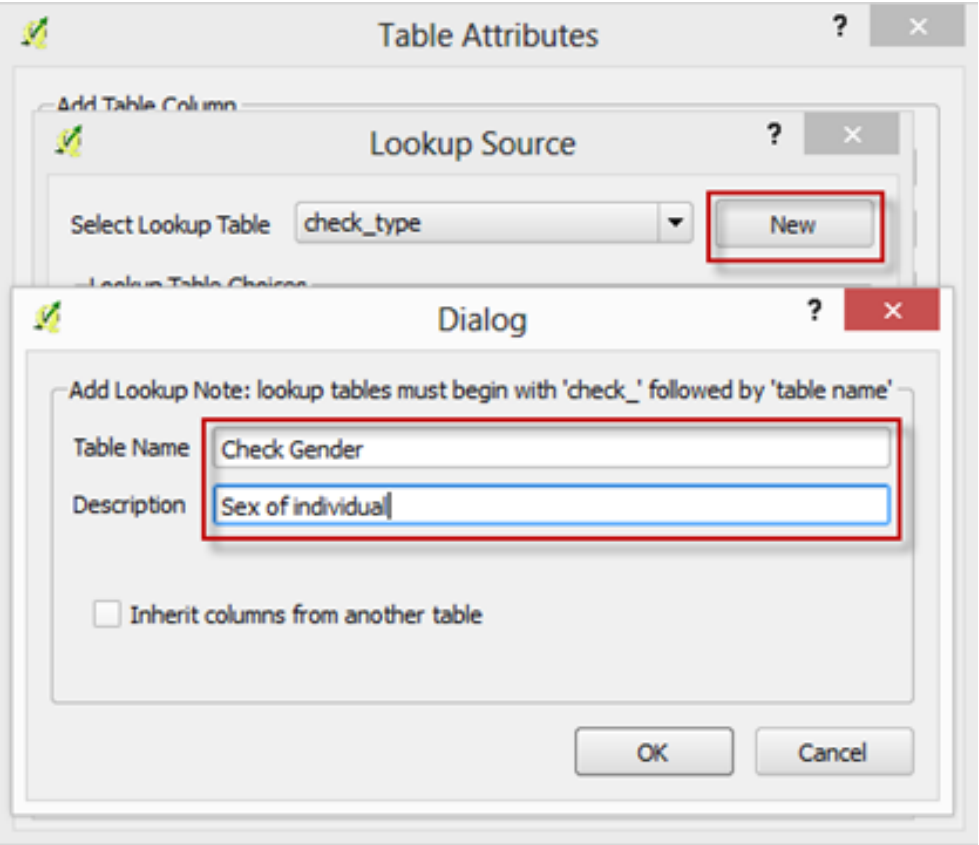
Adding more lookup options to different column and field



Note: this option is only selected if the column name is a list choice of two or more variables e.g Male/ Female, Up/Down,

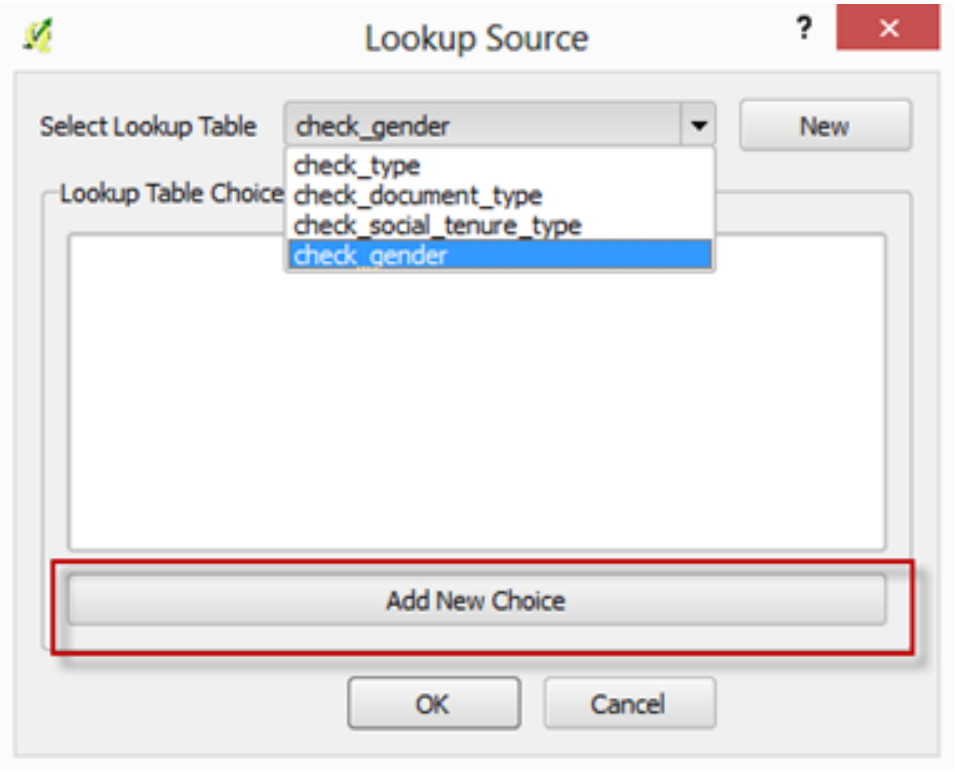
To select this option you need to check the Yes option on the field .

- The lookup source dialog will appear as seen above where you need to select which table from the drop down options on the left side of the new button, you may select an existing table from the list and make changes to it or create a new one. The gender option is not available on the options on the drop down menu, hence you should create it by pressing the button (new).

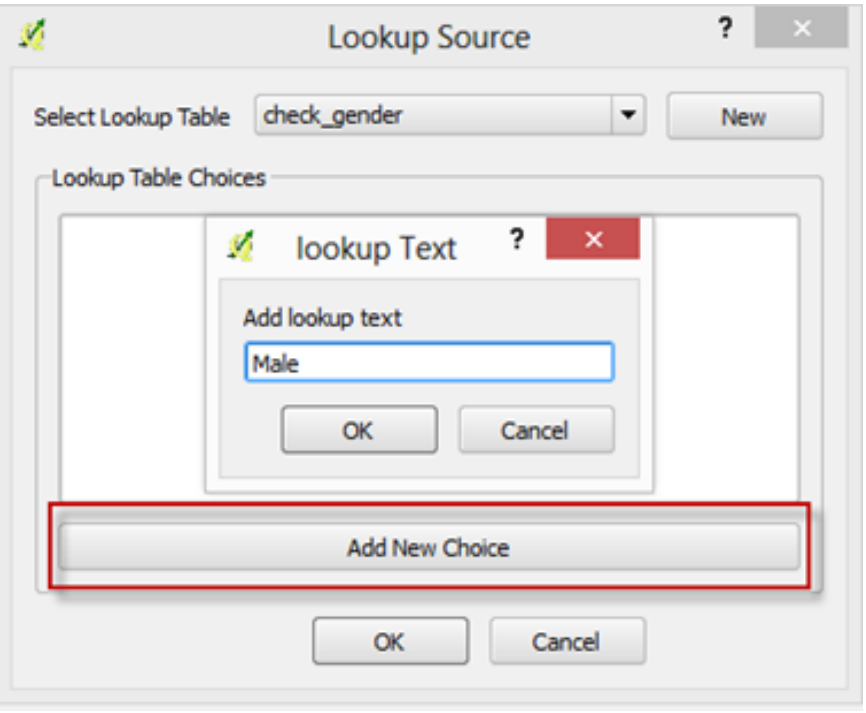


- The dialog above will pop up and requires the user to fill in the table name, this must begin with the word 'check' since a look up may be a variable of two options. Next you are required to input a small description of what the lookup is about.

Once done, click on the **OK** button on the dialog to move to the next step. at this point the newly created lookup table (check gender) is available on the drop down list as seen below.

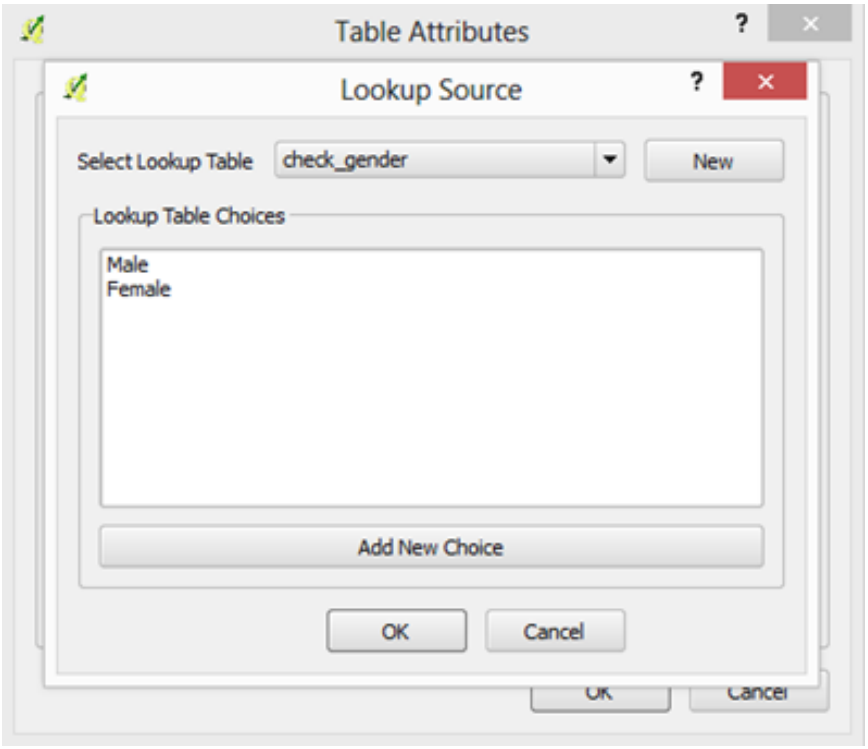


However the choices for gender are not available on the choice list below the drop down options, this is because the lookup is new. You need to add new choices for gender (male and female). Click on the 'add new choice' button shown above in a red box to add the choices.

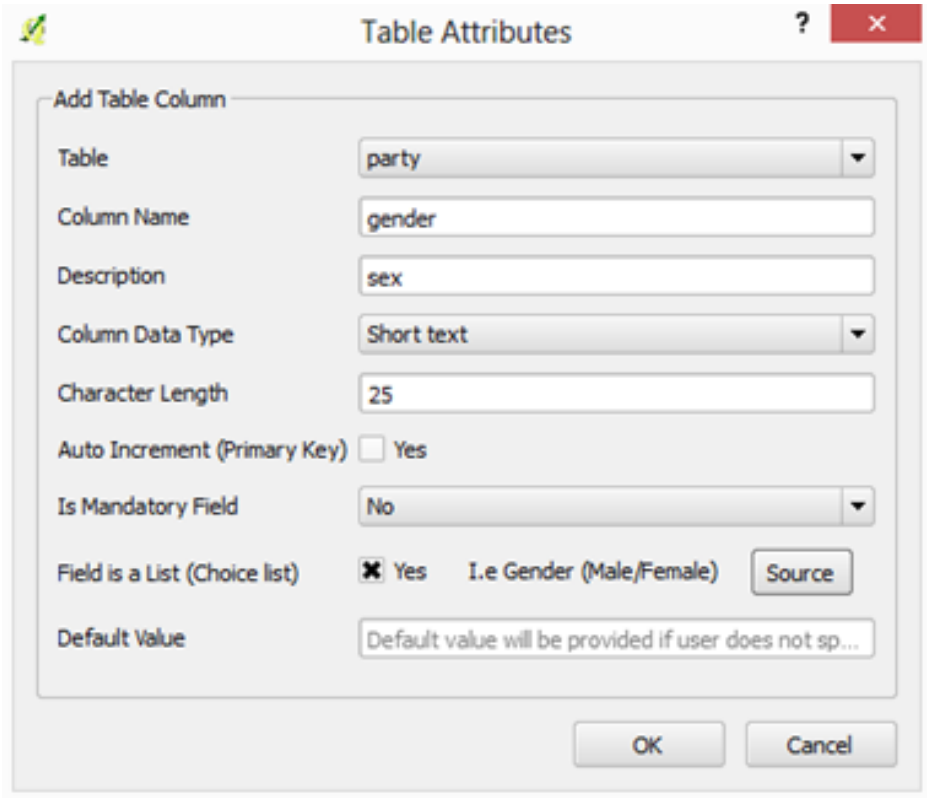


A dialog box will appear and in the field you are required to input the choice text, click OK for the choice to be added on the lookup table then repeat the procedure by clicking on the add new choice button to add the second choice (female) or subsequent values.

The lookup source dialog shown below will appear with the newly created source lookup.



Click on the **OK** button for the changes to apply. The browser will take you back to the Table Attributes



The table attributes dialog will appear with all the changes and lookups incorporated. Since the new lookup created is a choice list, user is required to check the 'Yes' button on the field attribute.

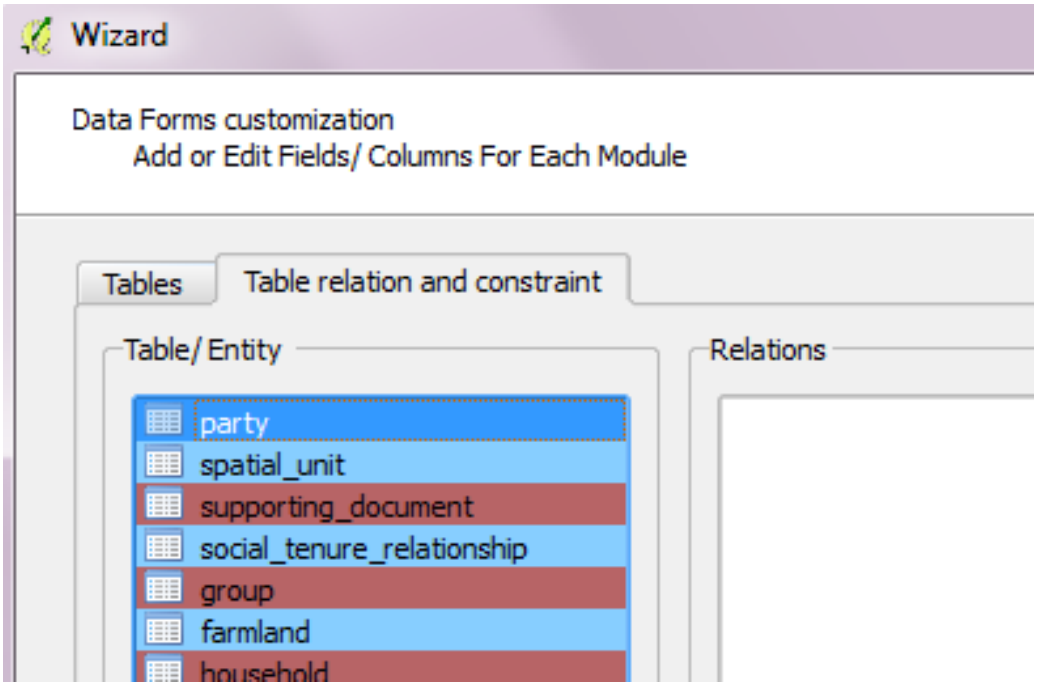
NB. this option is only required if the lookup created is a choice list.

Click on the **OK** button on the table attributes to proceed.

The new table lookup created will appear on the bottom left corner of the setup wizard. Its choice values will appear on the right hand side.

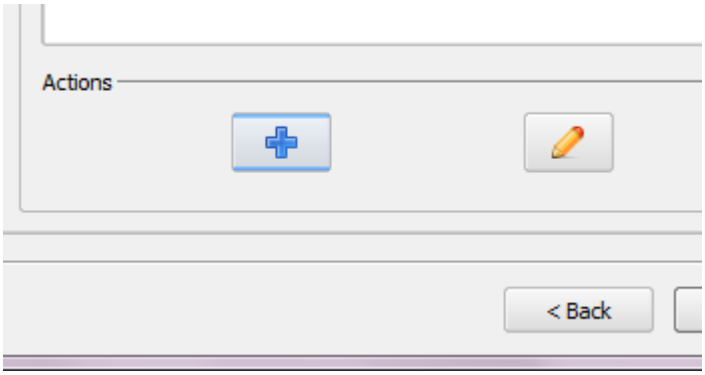
Table relation and constraint.

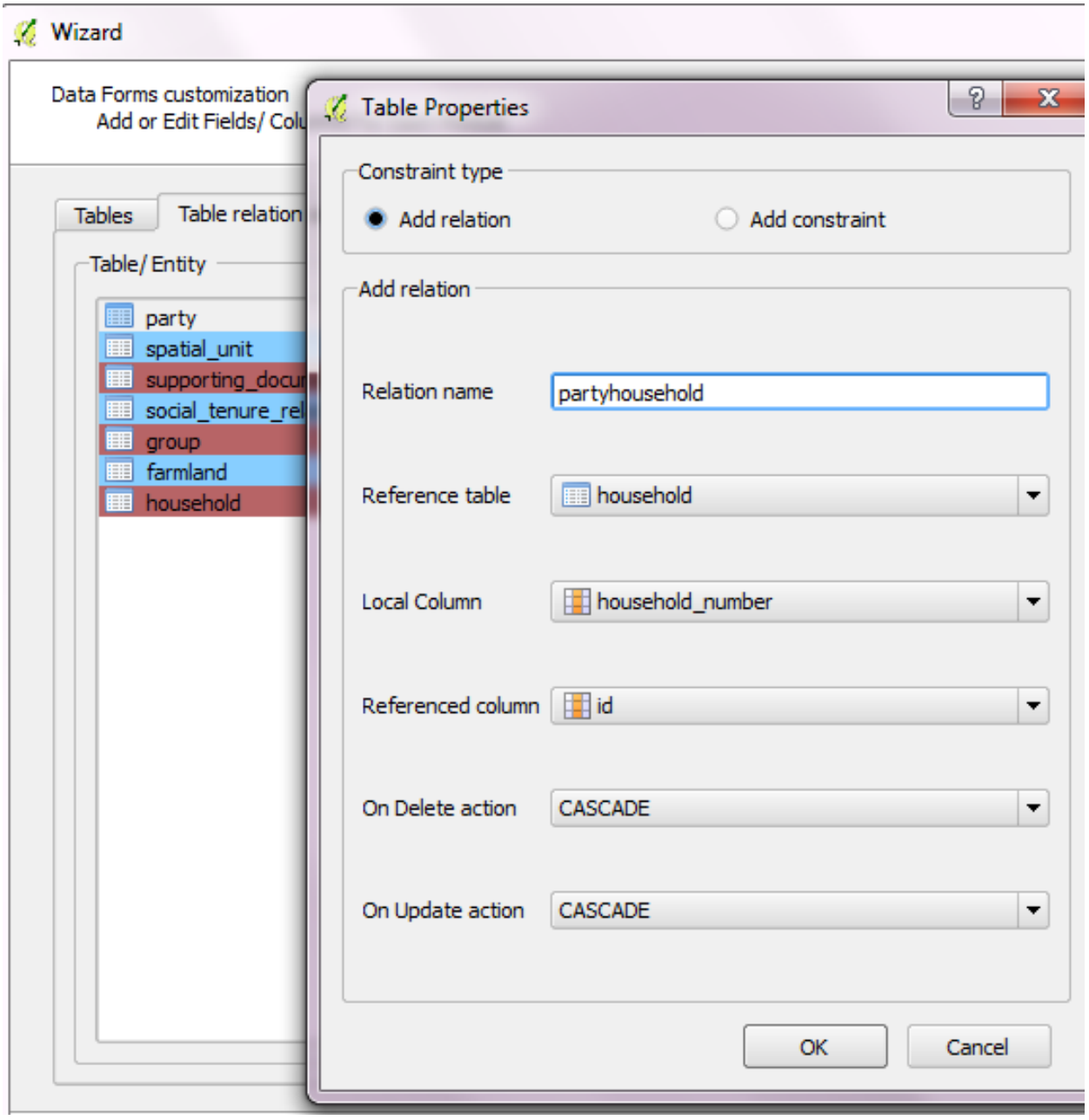
On the top of the configuration wizard there are two options. On the earlier configuration steps, we have been working on the 'table' option. The other option is the 'Table relation and constraint' marked in red below.



This option enables you to set up any relations between two tables. e.g. person and household. It gives any relationship available between two tables and a description of the relationship.

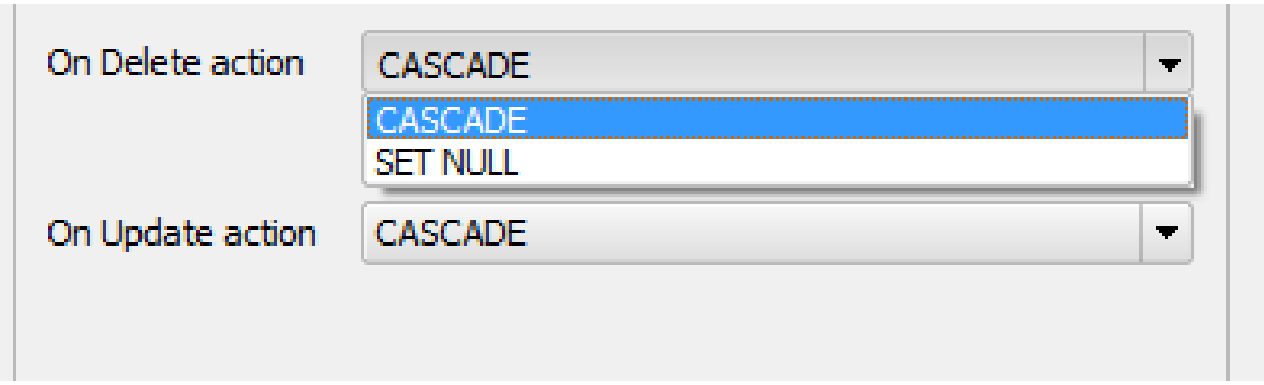
- One defines a relationship between two entities according to their property and nature. example, a child's relationship to the parent. Hence for one to define a relationship between a patent table and a child table, the parent table must exist before the child table.
- To create a relationship, first you need select the child table, then click on the Add button.



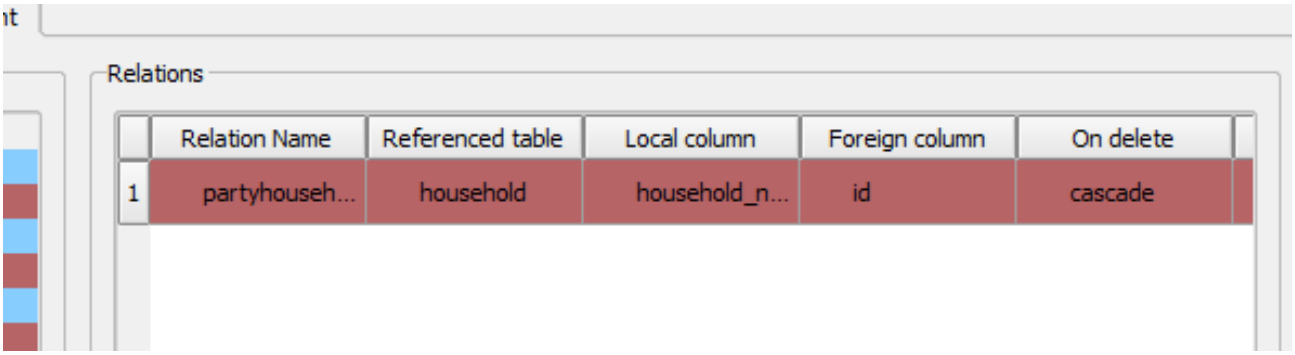


- A table properties dialog appears with various relationships fields to set up.
- The first field is the relation name that requires the user to define the name of the relationship. This field is mandatory.

- The next column is the reference table, this is the parent table to which the relationship will be linked. Select the table from the drop down menu among other tables in the current profile.
- Local column illustrates the column in the child table to be used for relationship.
- Next is the referenced column of the parent table, This define what type of relation the two tables have from the already created columns. User selects the column from the drop down list among the table columns.
- The next field is about the action taken on a parent or child table, in case changes are made on either tables.



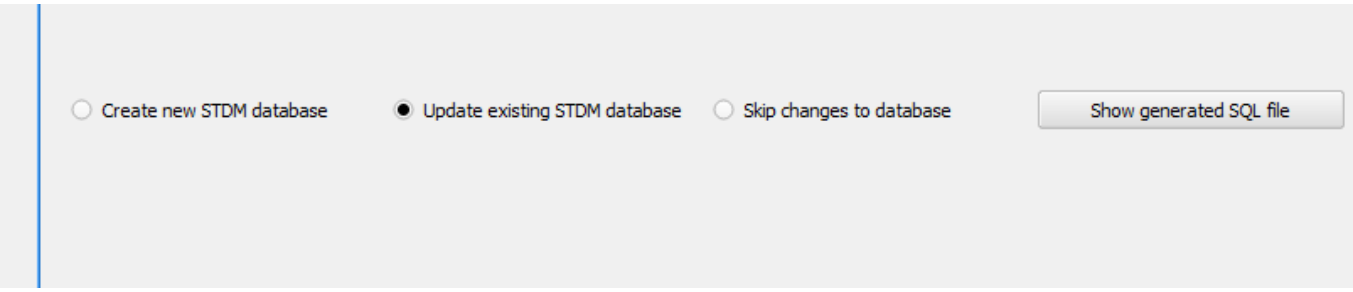
- On this field there are two options, the 'cascade' and the 'set null' option. The cascade option sets conditions such that actions taken on parent table descends to child table. If delete operation is taken on a parent table also affects the child table. The set null option sets a term where anything deleted on the parent table does not affect the child table.
- The next field sets the action taken when update on the parent table is committed. This field is also similar to the delete action, it also has the cascade option and the set null option. In this case on the cascade option, if an update is made on the parent table also takes effect on the child table for that particular record. On the set null option, an update made on the parent table does not affect the child table.
- Once the relationship is set, click the **OK** button, this takes the user back to the wizard on the relation tab.



You have the option of erasing the created relationship from this wizard. To do this, you

first need to highlight the intended relationship to be deleted then press the Del button on the right hand side of the selected relationship. The wizard will automatically prompt a warning message requiring you to confirm the action, is you agree to this the wizard will erase the relation and refresh without the deleted relation.

Once done, click the **Next** button on the main design wizard to move to the next option.



On clicking next, the above page appears. At this level, the user is ready to make changes in the database using the generated structured query language (SQL).

Clicking on the Finish button will prompt the wizard to compile the SQL and commit changes to the database.

Create New STDM database means any schema and data existing in the current database will be erased and replaced with new changes upon creation. This is mandatory for new installation.

Update existing STDM database means this will only affect new changes that have been made. Data previously entered is preserved.

Skip changes to database does not affect anything.

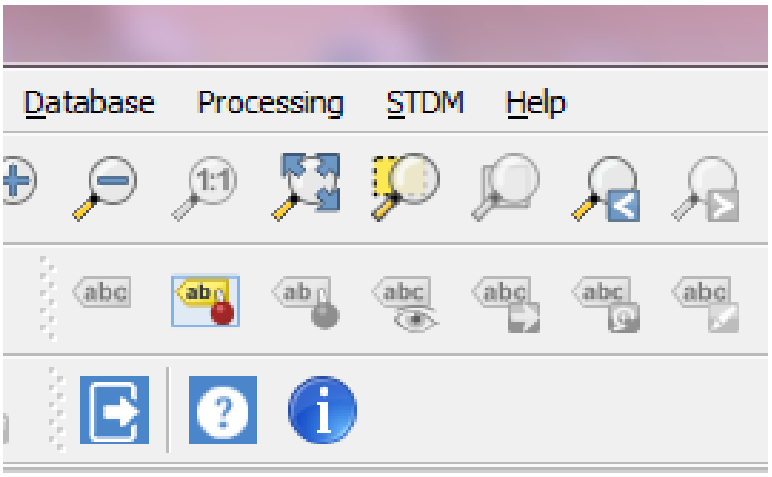
To view the SQL generated, click on the **Show Generated file.** Any changes made to the SQL at this level may affect the original schema. If any errors are detected during the commit process, the advanced users can correct them on the display window directly.

To access new schema created, log out and login again so that the database changes can be synced during the login operation.

Data management

Accessing Modules

For user to access the table modules, click on the STDM button on the menu bar then the start plugin option. Alternatively user can click on the start plugin button directly on the tool bar options.



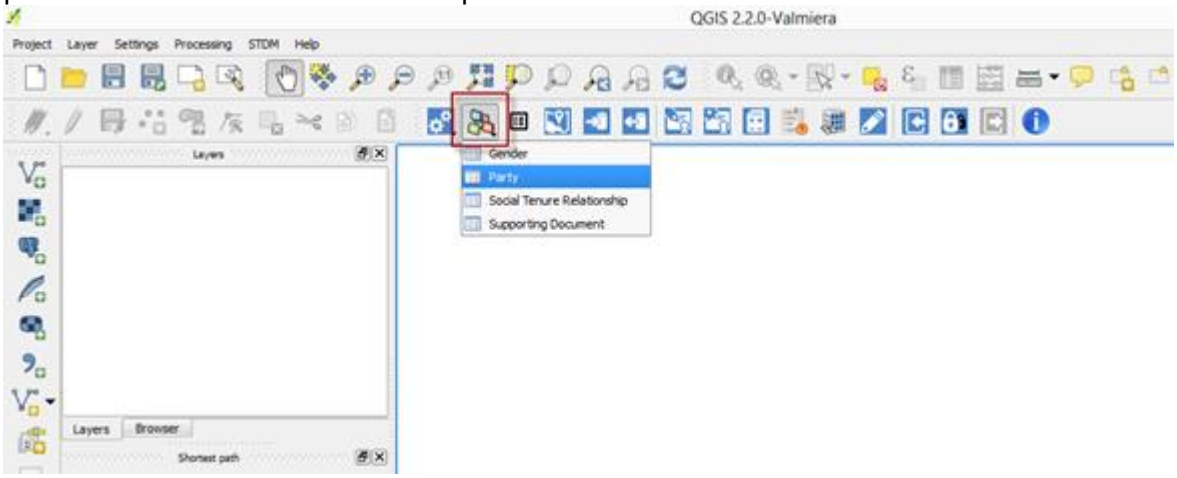
This will start an STDM login wizard that requires the user to input their user name and password.

Once the login information is entered, click the login button to proceed.
The cancel button on the login wizard terminates the login process and takes the user back to the QGIS main window.
Once user is logged in, STDM menu and tool bar appears with the modules.

Click on the modules button to select which module form the once that appear and select which module the user requires to manage.

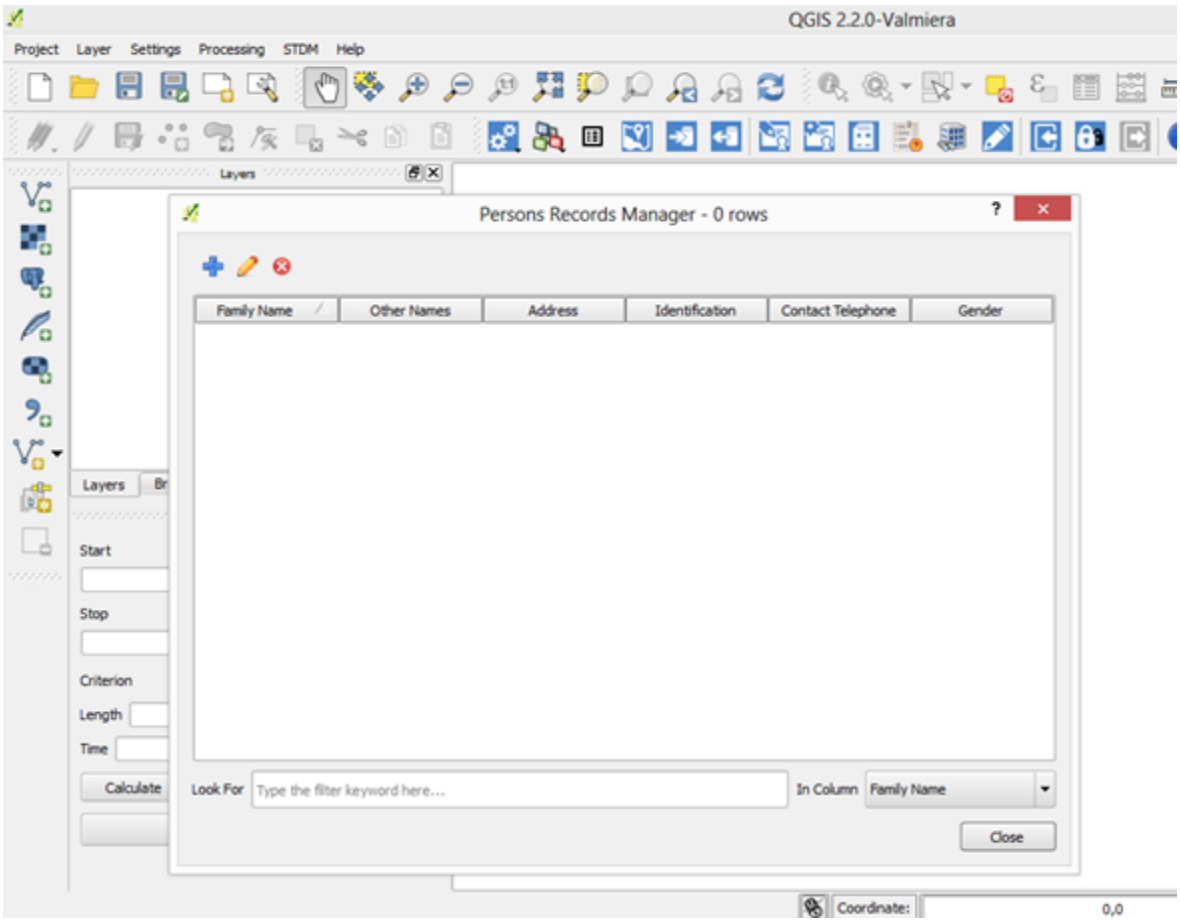
Managing Modules Data(party)

Getting started.
When a module/table is created on the design forms option of the STDM plugin, its options and columns can be accessed from the button shown below on the plugin.
You first need to log in with the log in information you provided in the log in/out procedure to access this menu option.



Clicking on the module settings button will provide a drop down list of all modules created. Click on the module you are interested in to execute its columns. Its browser will

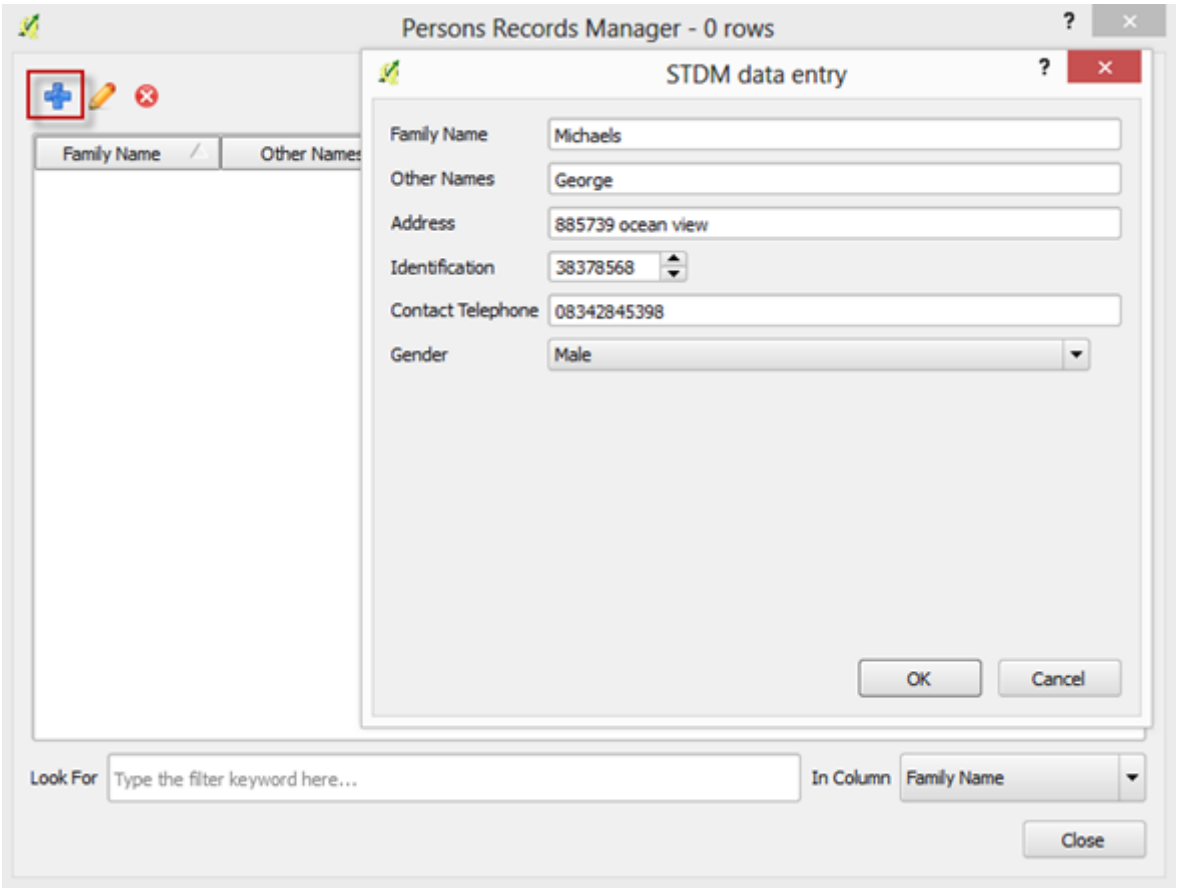
appear with the tables columns and tables. If there were no columns created in the design form the module selected will appear as seen below.



At this point, you have the option of adding a new column, editing an already created column or deleting a created column. There are buttons on the browser for each of the said options.

Adding a row.

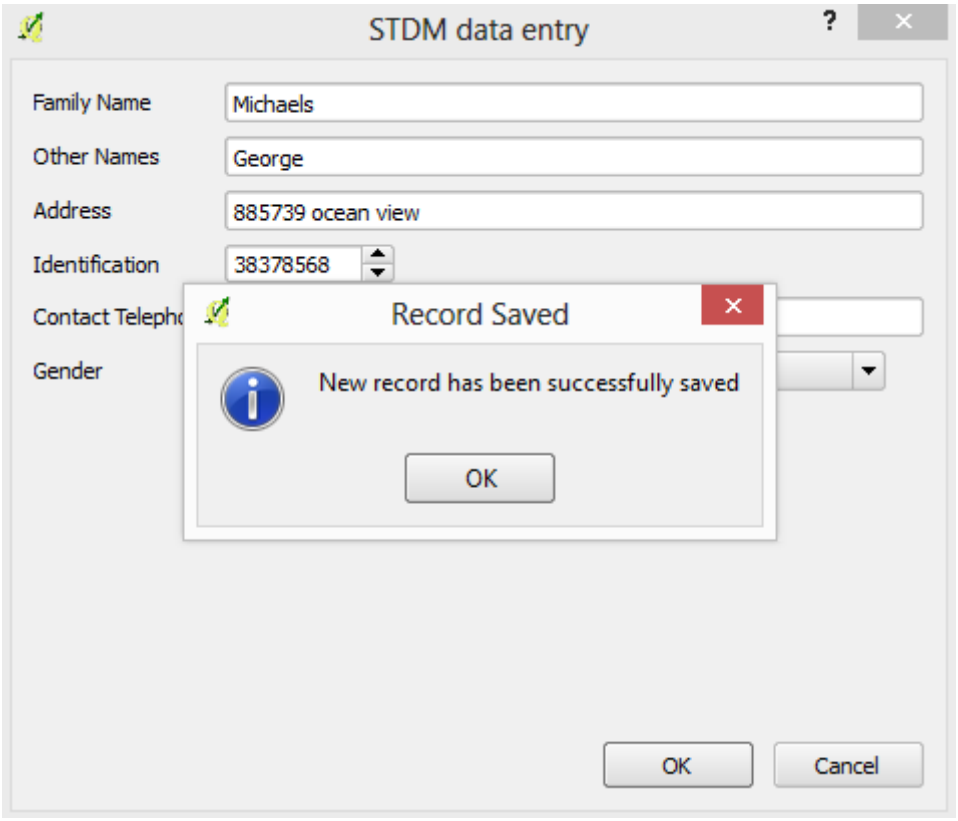
To add a new row, click on the button shown in a red box below. This will prompt an STDM data entry dialog as seen below where you are required to input the information of the new row.



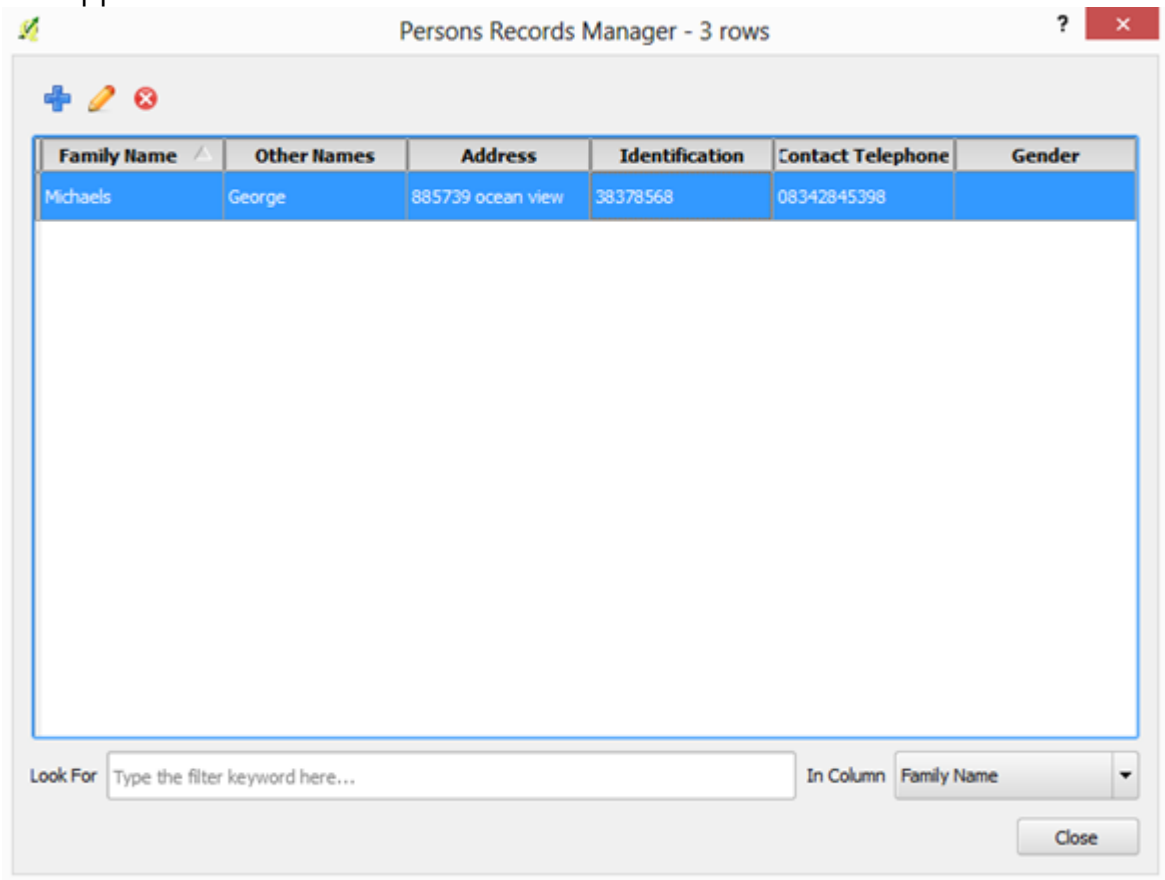
Note: The fields on the dialog will appear empty, the information inputed above is random for your understanding.

From here you can input new data on the rows in all the fields. Once done, click on the OK button for the new data to take effect.

If you click the cancel button, it terminates the process of adding new data on the row and the dialog goes back to the persons record manager dialog.

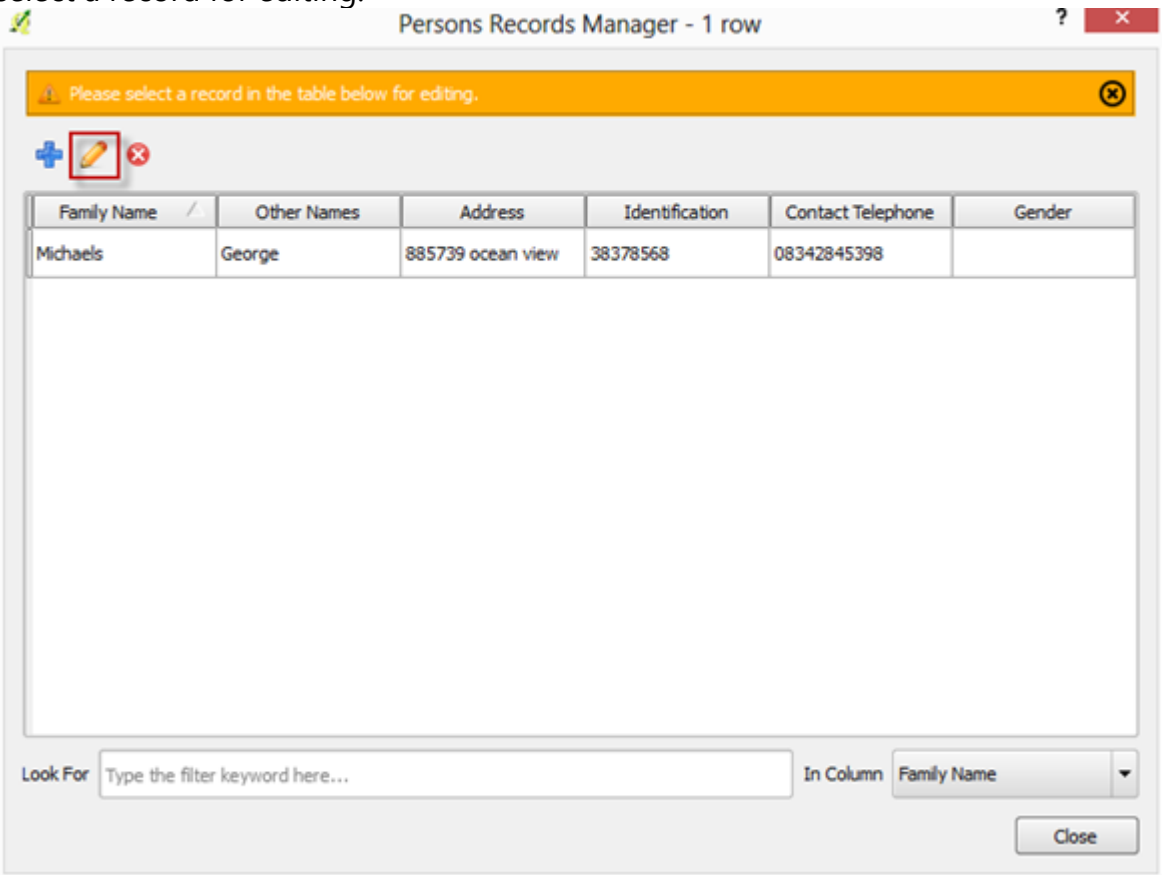


Once you have made all required entries, clock OK and the above success message will appear. The records browser now refreshes with the new changes made on the column and appears as seen below.



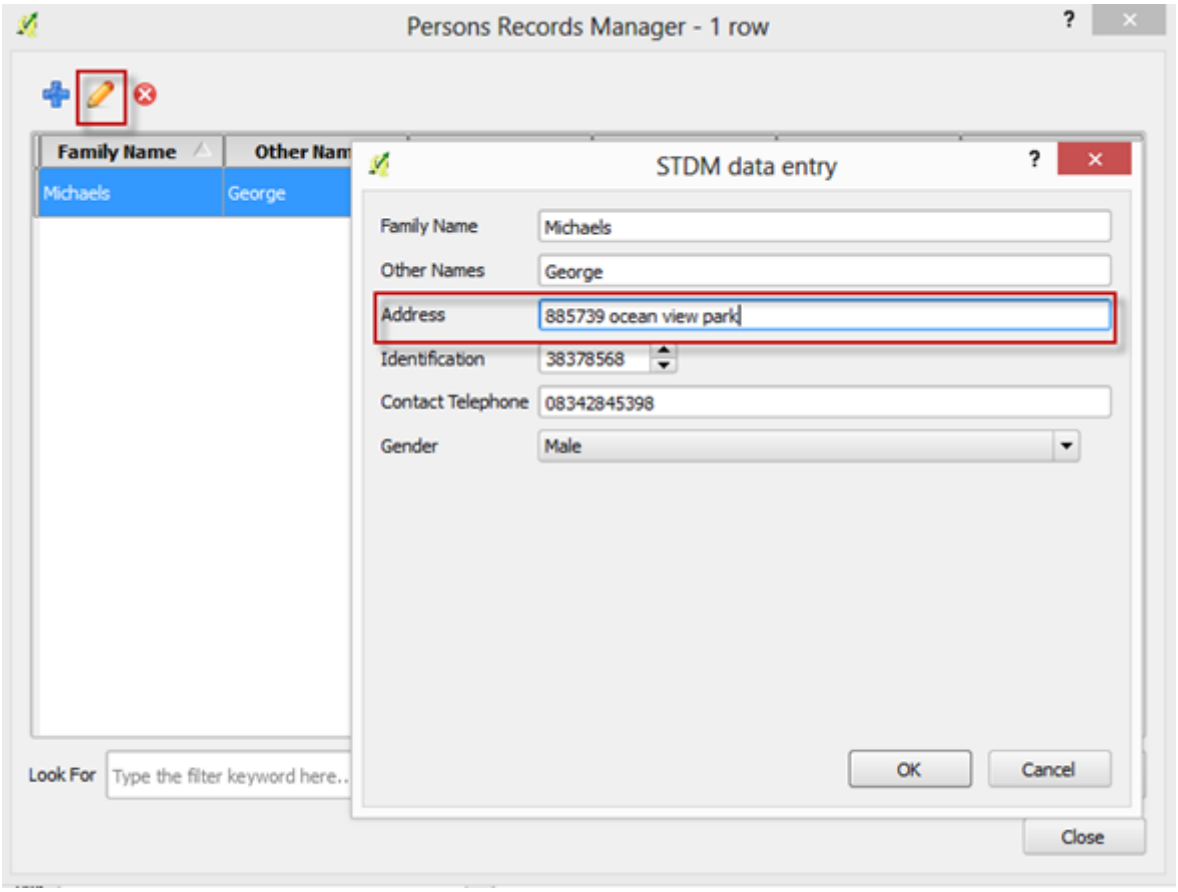
Editing a row.

The second button on the browser is the edit button. You first need to select which row you intend to edit, if the edit button is clicked before highlighting which row is to be edited, the browser will respond with the warning message shown below asking you to select a record for editing.

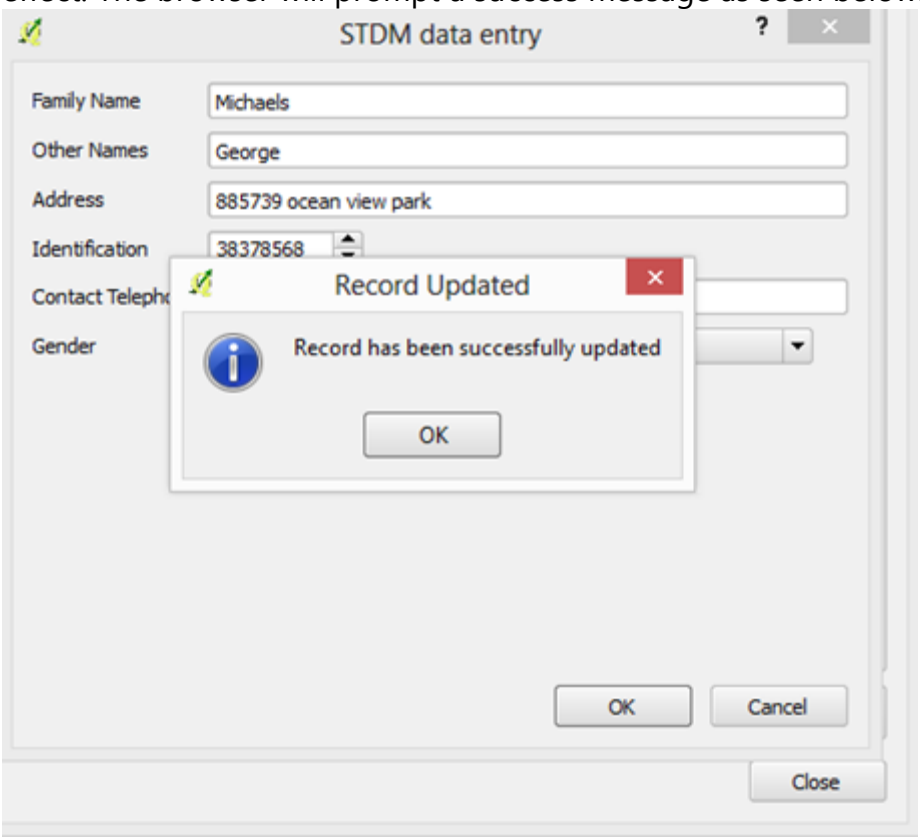


Click on the edit button to make changes to an already created row on the selected table. The data entry dialog will pop up with the information you inputed during the adding procedure, select the field you would like to make changes to and edit as intended.

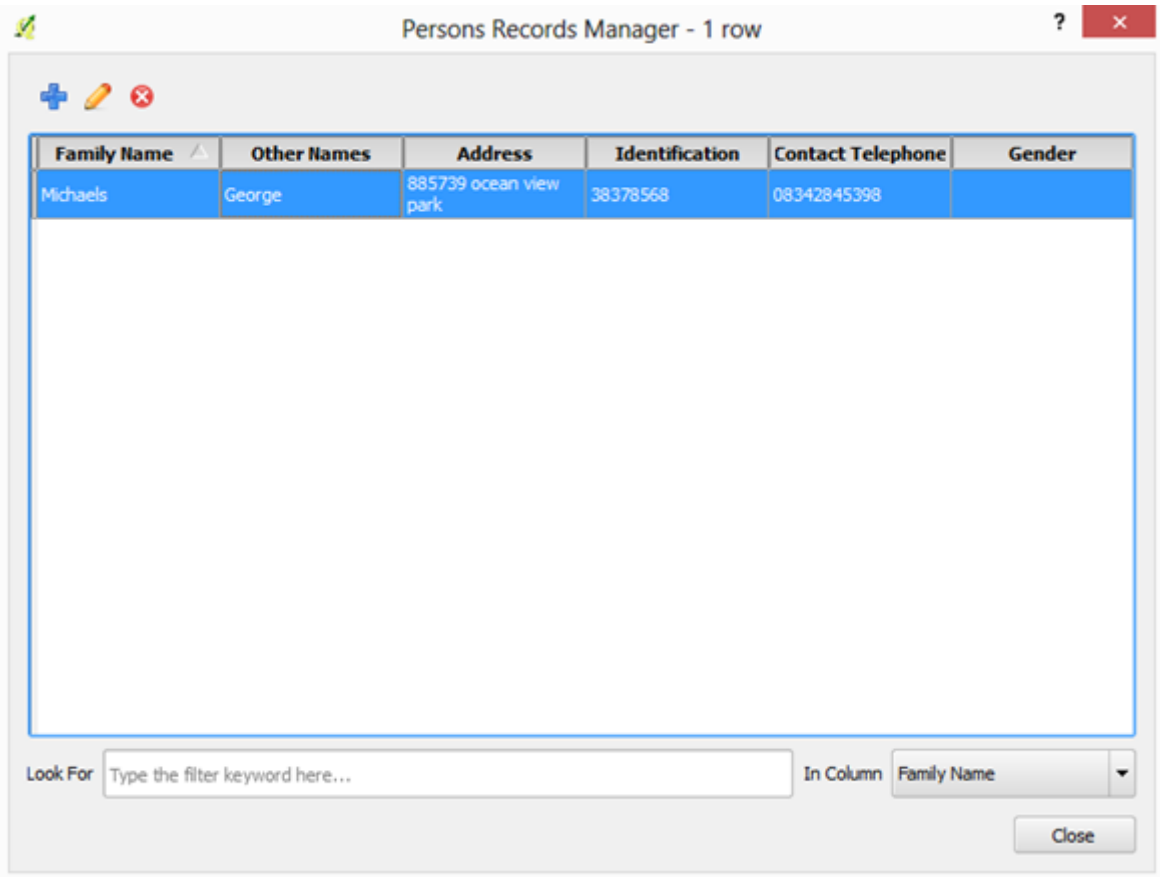
Note: For the purpose of this procedure, we are going to edit the Address field by adding the word park.



Once all the changes required are made, click on the OK button for the changes to take effect. The browser will prompt a success message as seen below.



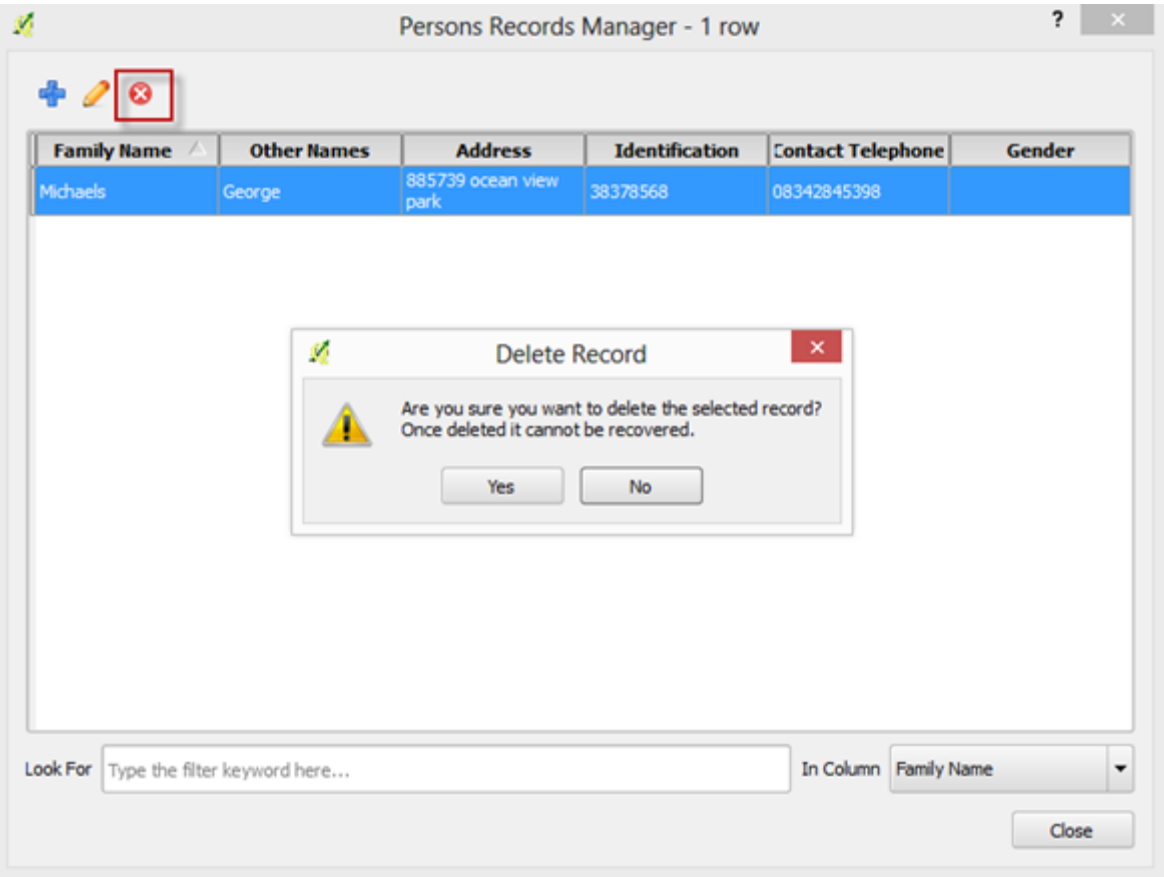
Click OK on the message for the change to take effect, the browser will automatically refresh with the new information and appear as shown below.



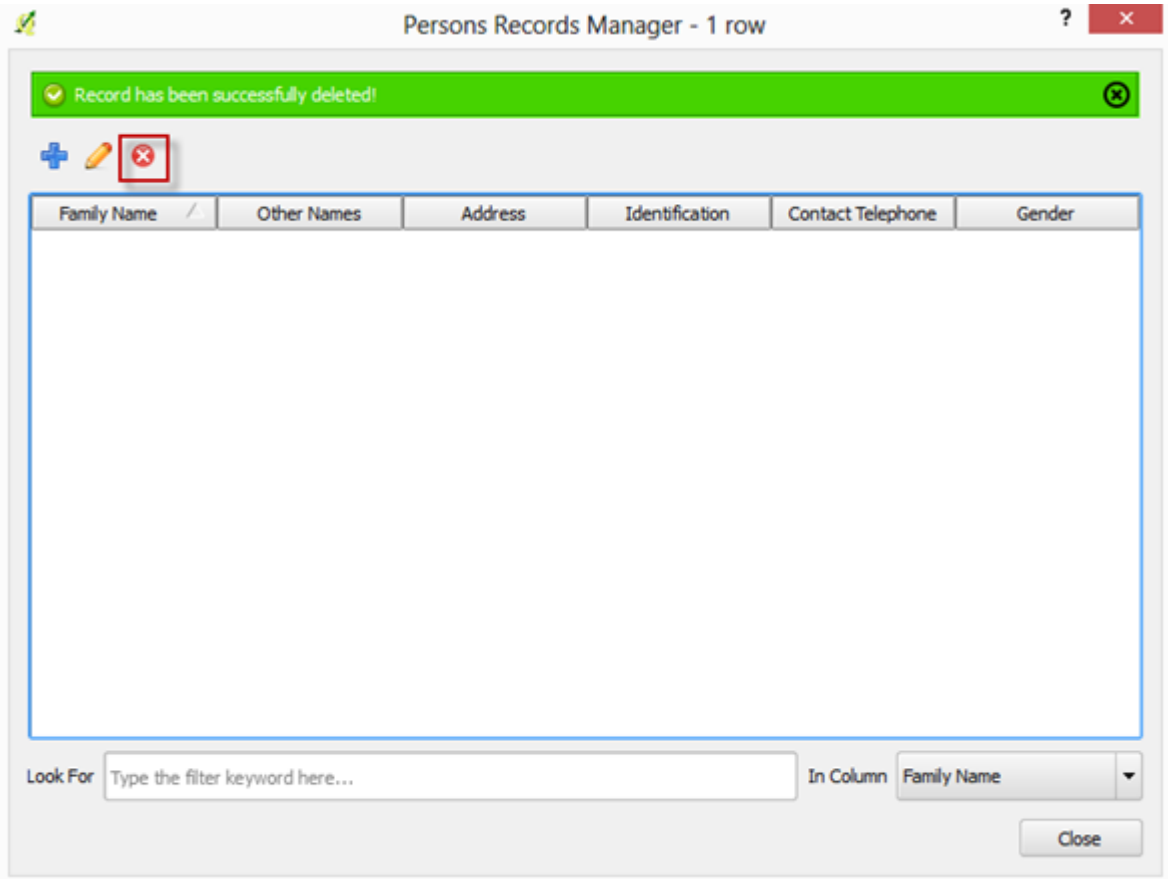
Deleting a row.

The third button on the browser is the delete button. To erase a row, first select the row to be deleted by clicking on it. If a row is not selected on the records browser, a warning message will appear as seen in the editing procedure asking you to select a row to delete.

Once you have selected a row and clicked the delete button shown in a red box below, the browser will automatically prompt a warning message a for you to confirm the action as seen below.



If this is not the intended action, click no and the warning message will disappear without making any changes on the row. However is this is the intended action, click yes and the row with all the information will be erased.



The browser now will appear as seen above with an erase success message and the records browser will refresh for the change to take effect.

Click the Close button on the bottom right corner of the browser to close the records manager once you are satisfied with any changes made on it.

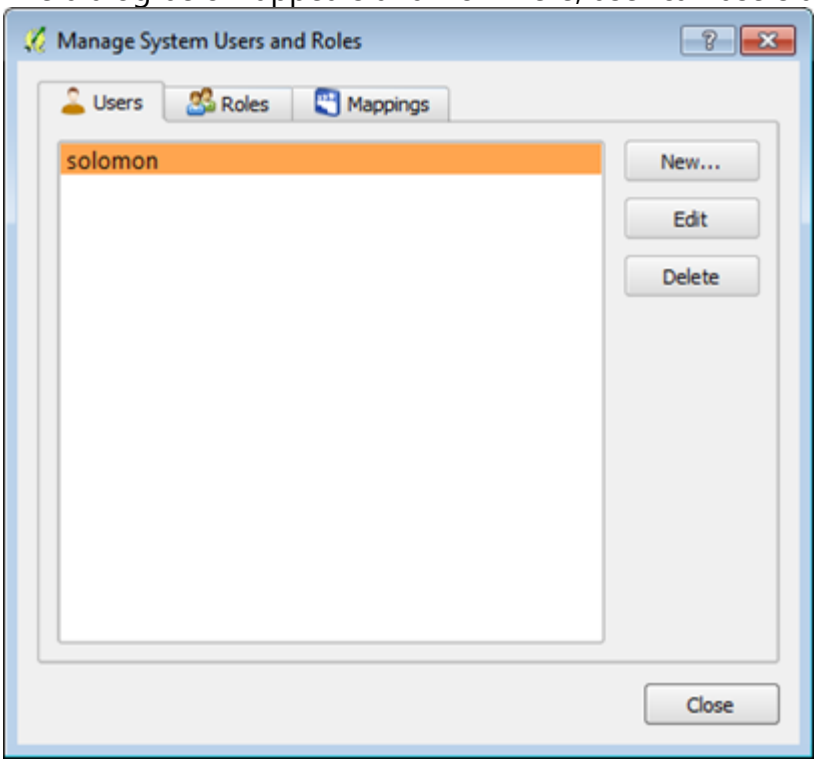
Managing User and Roles

Accessing Modules.

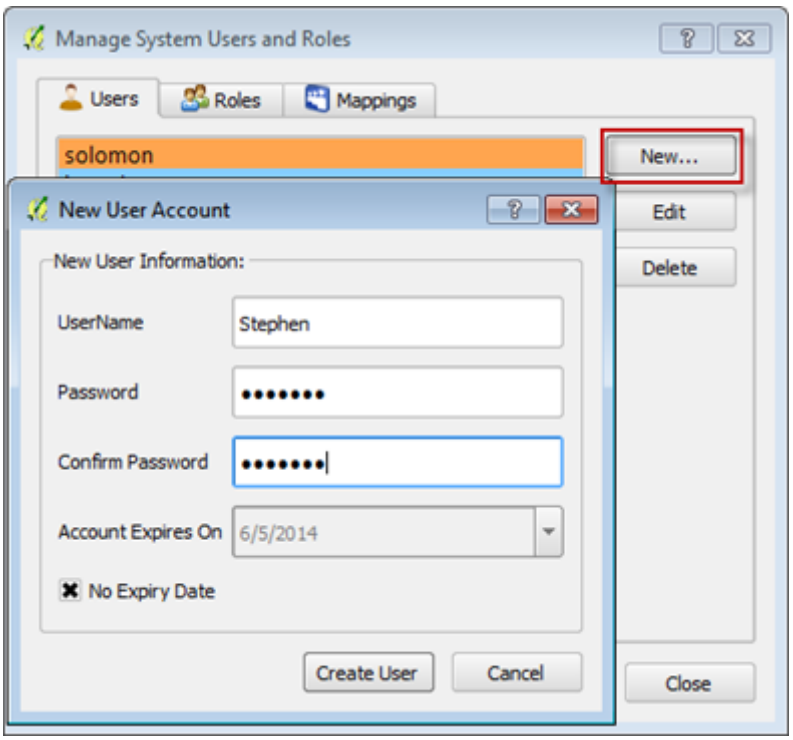
User Management

Accessing Modules.
Administrator Settings.
Managing user Accounts.
To manage user roles and administrative settings, click on the admin settings button shown in a red box. From the drop down contents, click on the item named manage user roles.

The dialog below appears and from here, user can users and their roles and group them



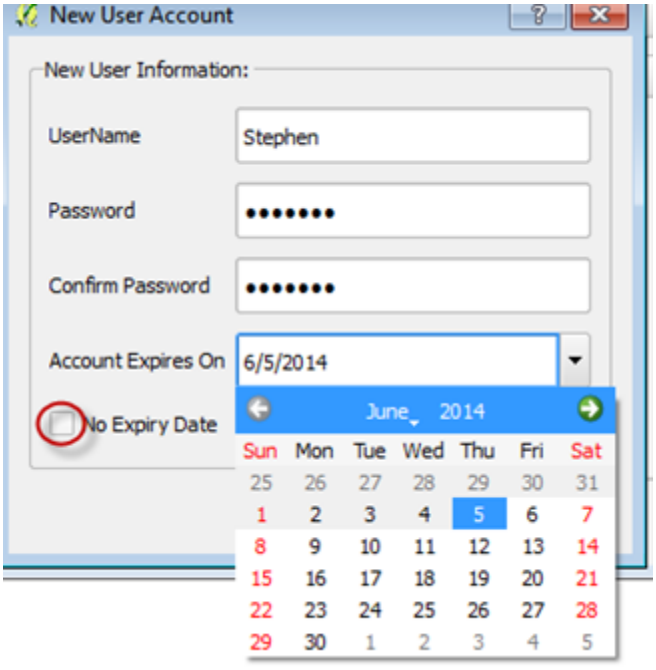
A user is person authorized to manage and manipulate content set up on the configuration wizard.
The data management dialog will appear with the default user created, however more users can set up new accounts for content management.
To create a new user, click on the 'new' button to input the required information.



On the new user dialog, input the username and create a password to login with.

The new user created can be given a timeline after which the user account created will expire.

By unchecking the expiry date box circled in red below, the expiry date set up will be active.


New User Account
New User Information:
UserName
Stephen
Password
Confirm Password
Account Expires On
6/5/2014
No Expiry Date
June 2014
Sun Mon Tue Wed Thu Fri Sat
25 26 27 28 29 30 31
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 1 2 3 4 5

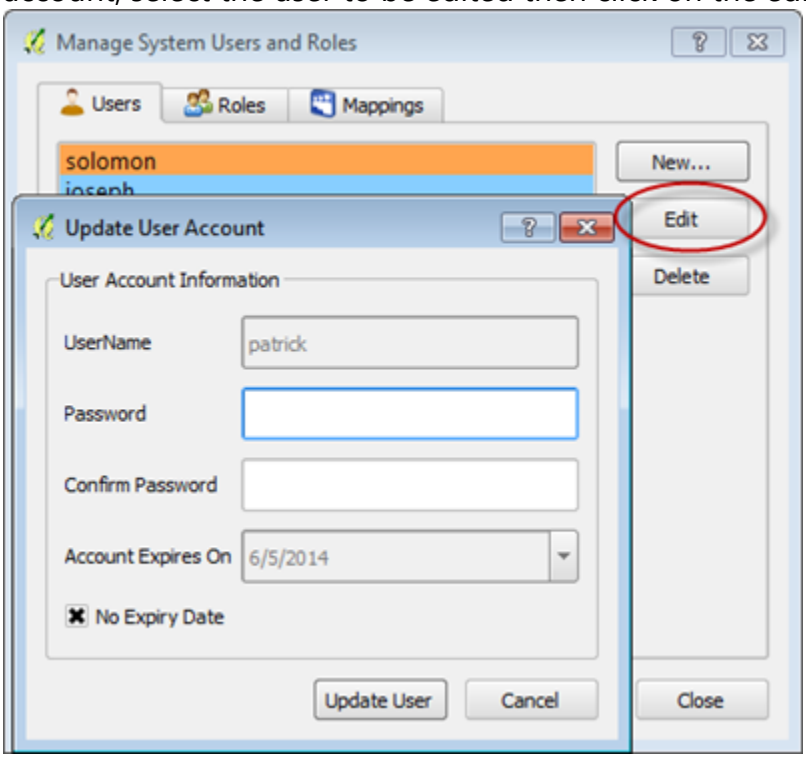
Click on the date button and set up an expiry date for which the new user account will be active.

Once done, click on the 'create user' button on the dialog to create the new user.

Edit User.

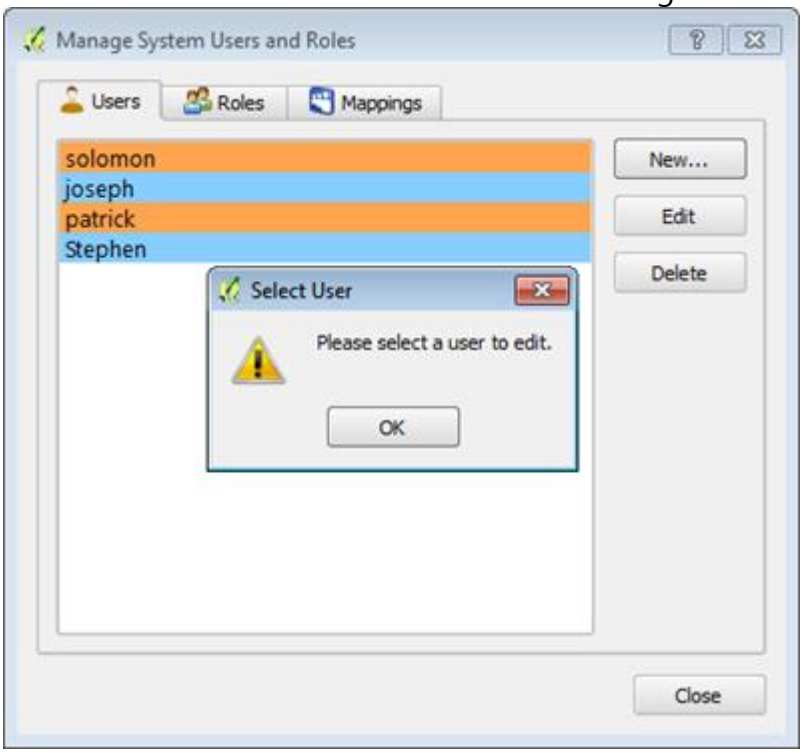
The user management dialog also has a user editing option. To edit an already created

account, select the user to be edited then click on the edit button.



On the user update dialog, user can make any changes required. Once done, click on the update user button to effect the changes.

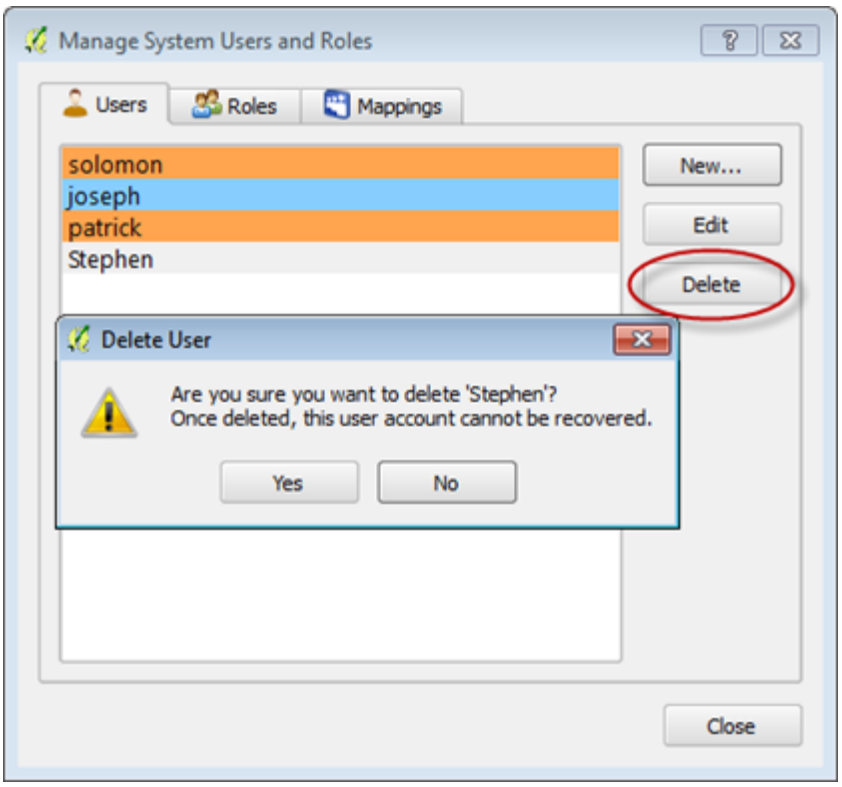
If user clicks on the edit button before selecting an account, a warning dialog appears.



Click on OK button and select a user account to edit.

Delete User.

The user management dialog also has the option to delete an account



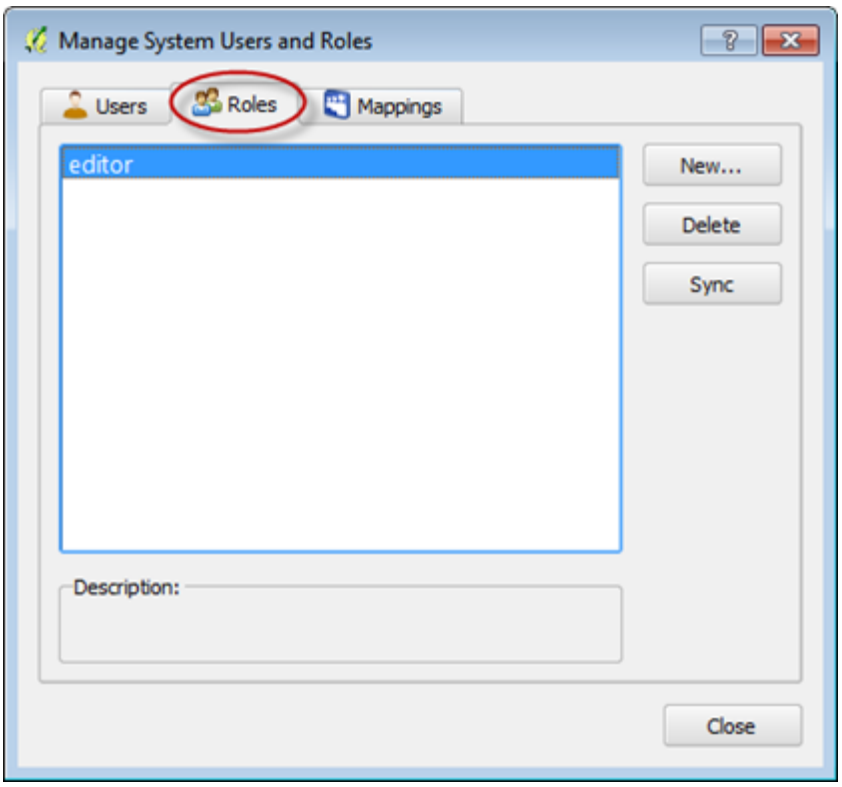
First select which user account to be deleted then click the delete button. A delete user warning appears, user can confirm the delete action by clicking on the 'yes' button to proceed. This will erase the account from the user list and any roles assigned to the user are left un assigned.

Role Management

Managing User Roles.

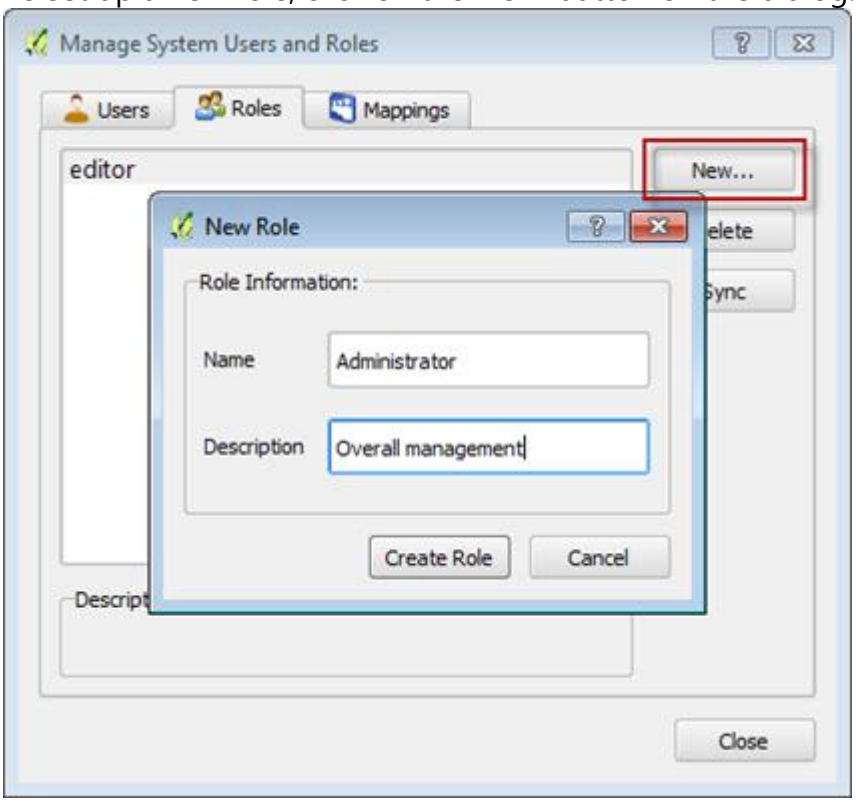
A role is an entity that can own database objects and have database privileges; a role can be considered a "user", a "group", or both depending on how it is used.

To manage roles on the management dialog, click on the roles button circled in red below.



Default roles created will launch on the dialog. User has an option to create new roles for the users.

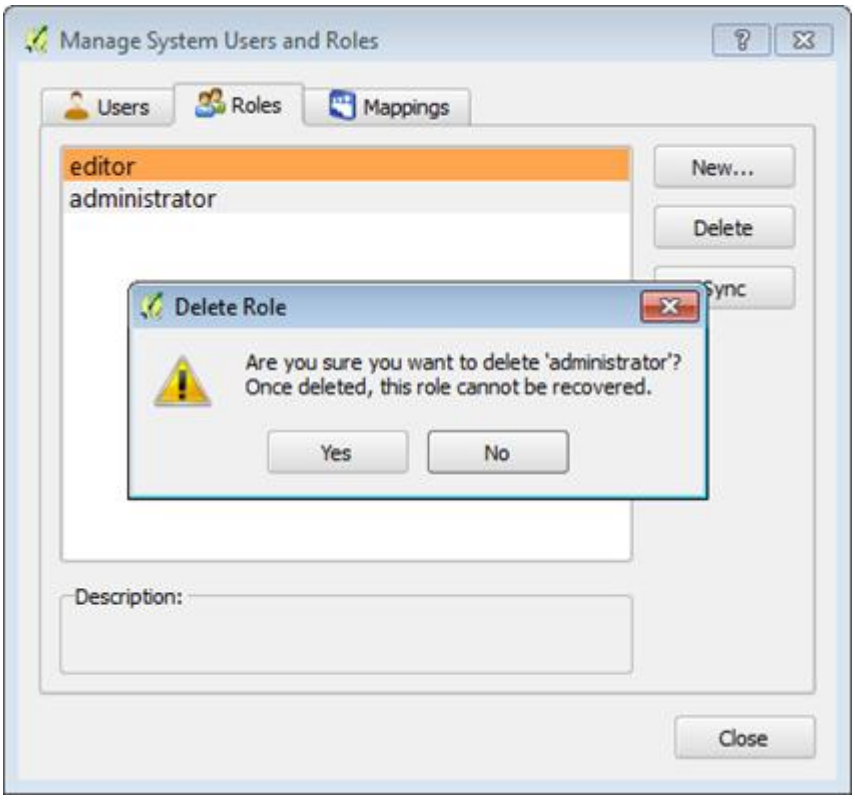
To set up a new role, click on the 'new' button on the dialog.



On the new role dialog, input the name of the role and its description. Next click on 'create Role' for the new role to be created.

Delete Role.

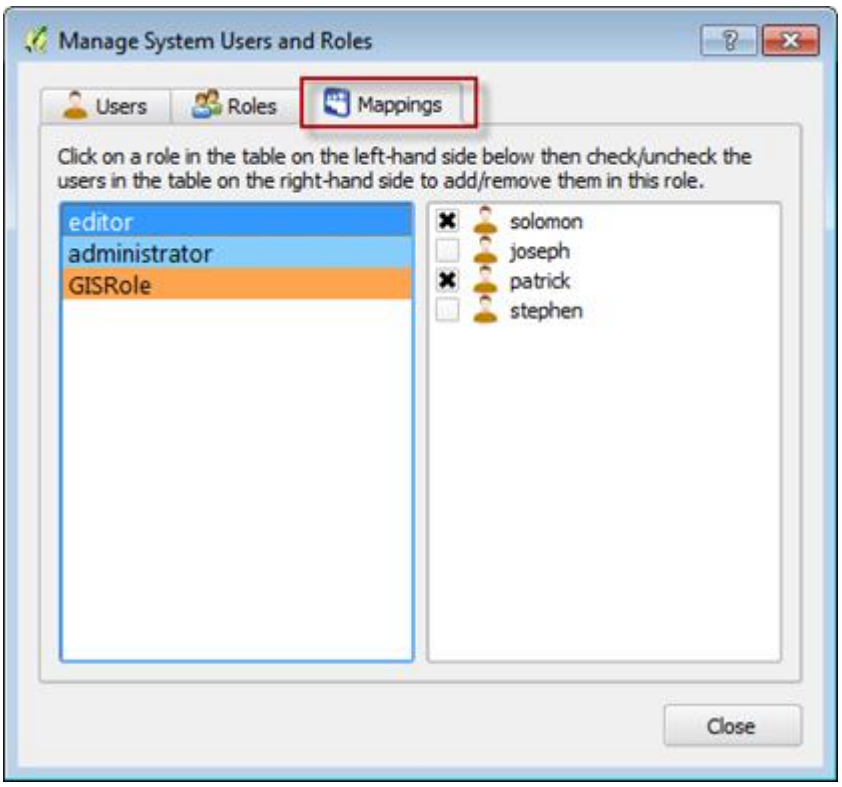
The role management dialog also has a delete option to delete a created role.
User first selects a role to delete then click on the delete button to erase a the role.



A warning dialog appears and on this the user is required to confirm the delete action. Click 'yes' if you wish to proceed with the action.

User Mappings

User and role Grouping.
It is at this point that the user authorizes who has access to the content.
Various roles created are assigned to various users for management and execution.

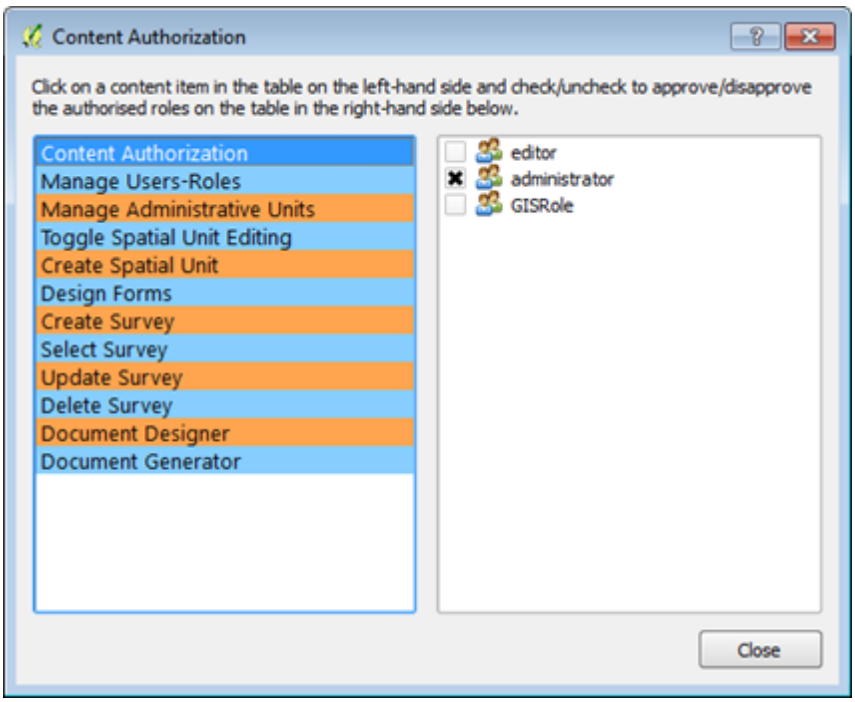


Click on the mappings button at the top of the management dialog for grouping.
The roles will appear on the left side of the dialog and the users will appear on the right. Select a role to assign users by clicking on in, next check or uncheck the box against a user to assign that role to that user. Do this for all the roles so that no roles are left unassigned.

Content Authorization

Content Authorization.
This is the point where various roles are assigned their content. Each role is given certain content to be executed by the user assigned to that role
To achieve content authorization, click on the admin settings button on the QGIS tool bar then select content authorization.

The dialog below will appear and it is on this wizard that the user assigns the content to roles.
To do this, user clicks on a content item on the left side of the dialog and assigns it to a role on the right side of the dialog by checking or unchecking the box against the role depending on whether the user is approving or disproving the assignment.



A role can be assigned multiple content depending on the nature of the content and the role description. Once all content is assigned its role, click on the close button.

Administrative Unit management

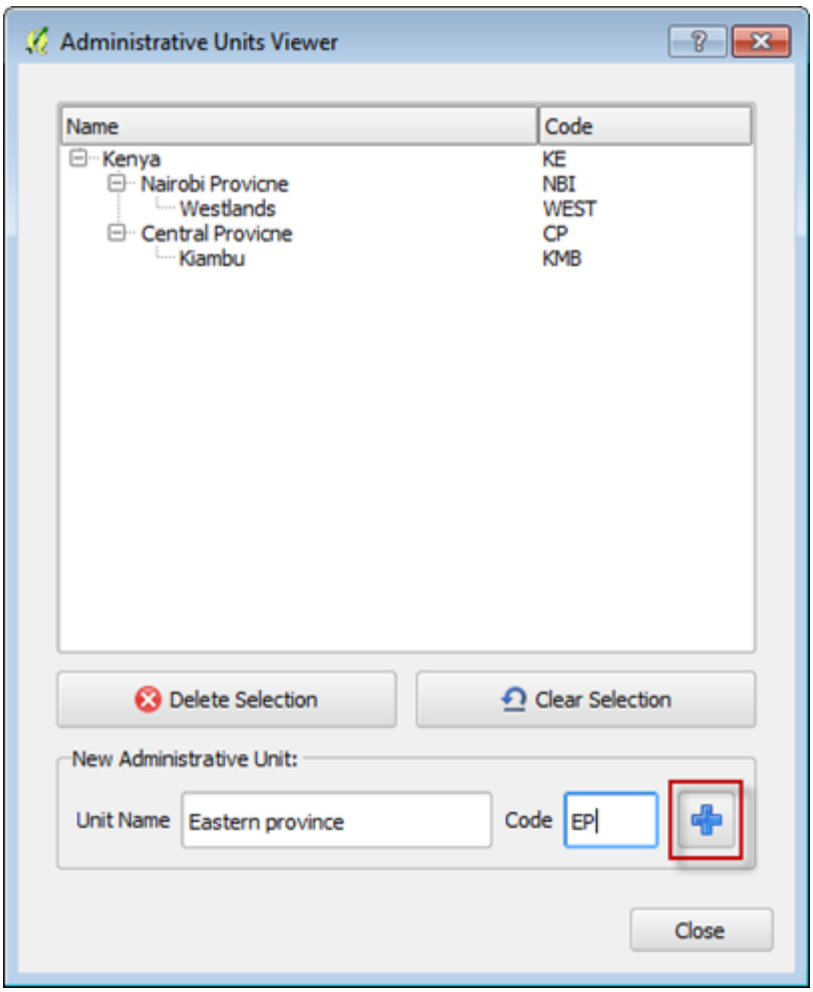
Administrative Unit Management.

Administrative units are set up on a hierarchical/cascade basis. For example, from country to province, then district, division and location. This could also be explained as form a parent unit to a child unit.

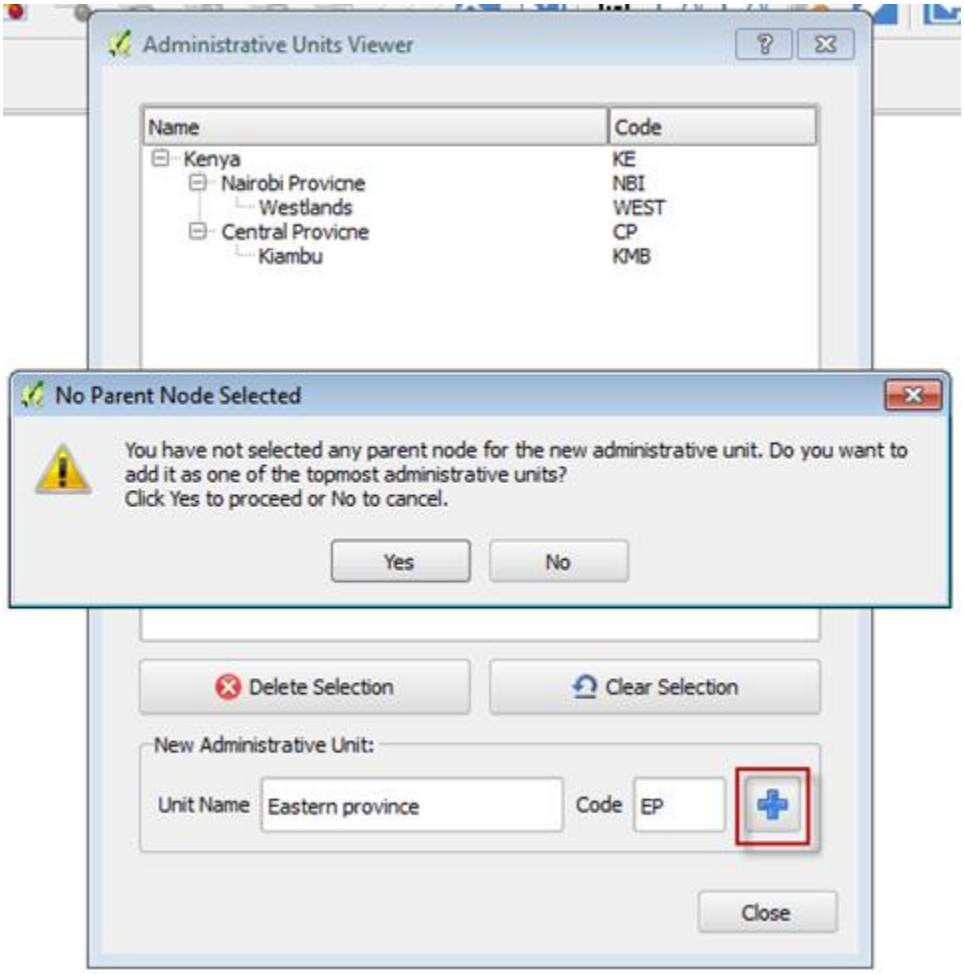
To access the administrative unit management, click on its button on the tool bar shown in a red box below.

QGIS 2.2.0-Valmiera
Project Edit View Layer Settings Plugins Vector Raster Database Processing Help
Manage Administrative Units
Layers

The administrative units



To set up a new administrative unit, type down its name and on the unit name field and its code on the code field. The system sets a new unit as a parent unit if no existing unit is selected during a new unit creation. If an already created unit is selected during creation of a new unit, the new unit will be the child unit and will appear below the selected unit.
If user intends to create a new parent unit when an already created unit is selected on the cascade, click on the 'Clear Selection, button on the management wizard.
Next click on the plus sign shown in a red box below to add the new unit.



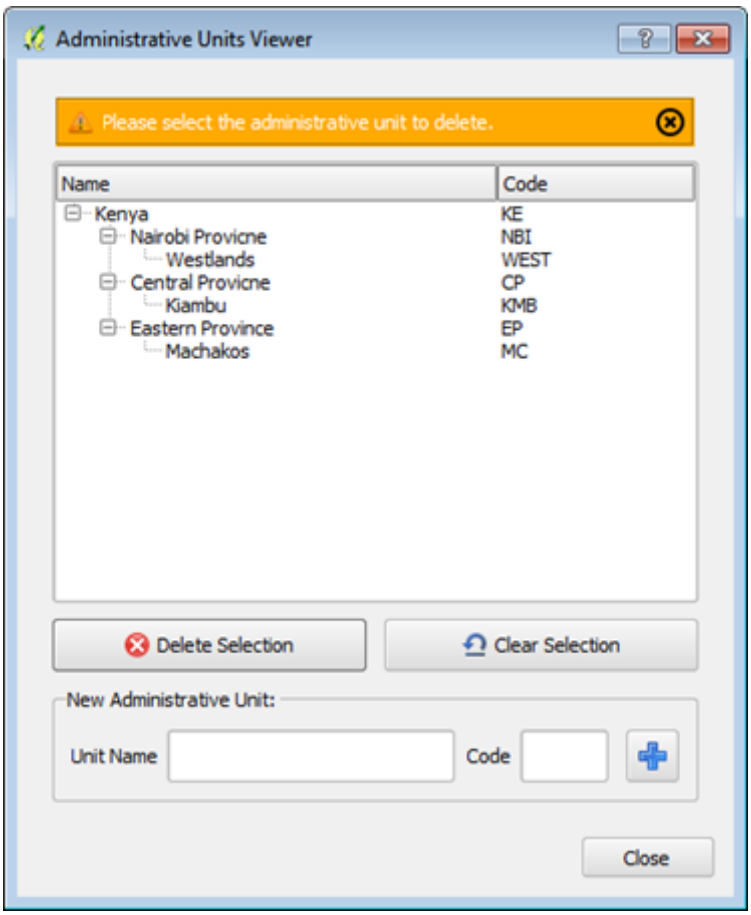
A warning dialog will appear that requires user to confirm the intention to create a parent unit. If user intends to do so, click the yes button. The NO button will cancel the process.

Deleting a unit.

The management viewer also has the option of deleting a unit. To do this select on an intended unit on the unit cascade and click on delete selection.

NB: If the selected unit is a parent unit, the action to delete will erase the unit and its children unit(s) below it.

If no unit is selected when the delete button is hit, the message below will appear on the viewer that requires the user to select a unit to delete.

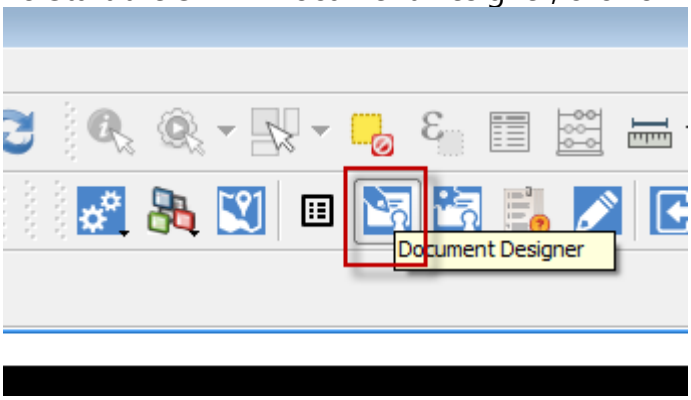


STDM Document Designer

Document Designer is a QGIS utility that can be used to design and set up maps

Design procedure.

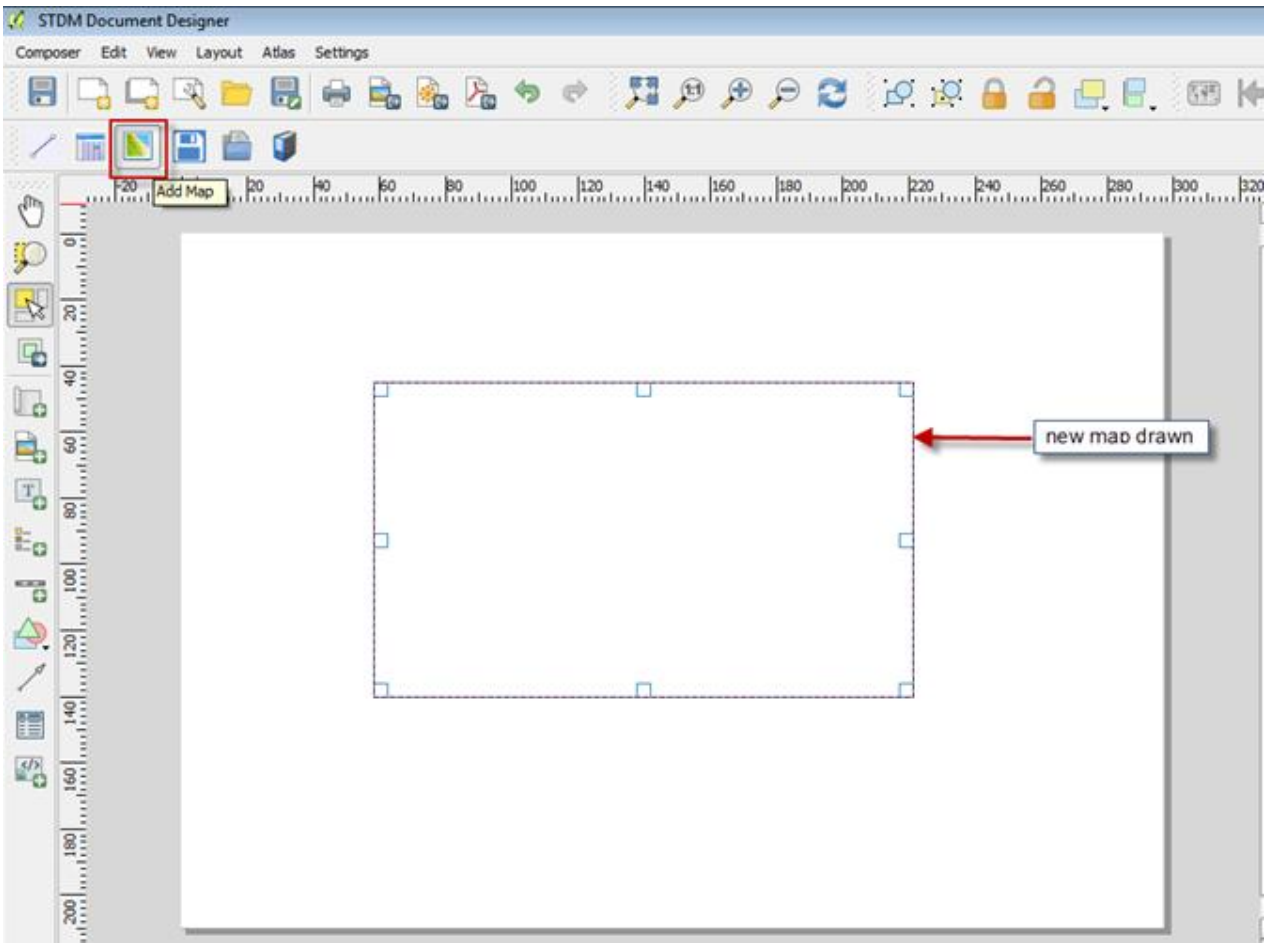
To Start the STDM Document Designer, click on its launch button on the QGIS tool bar.



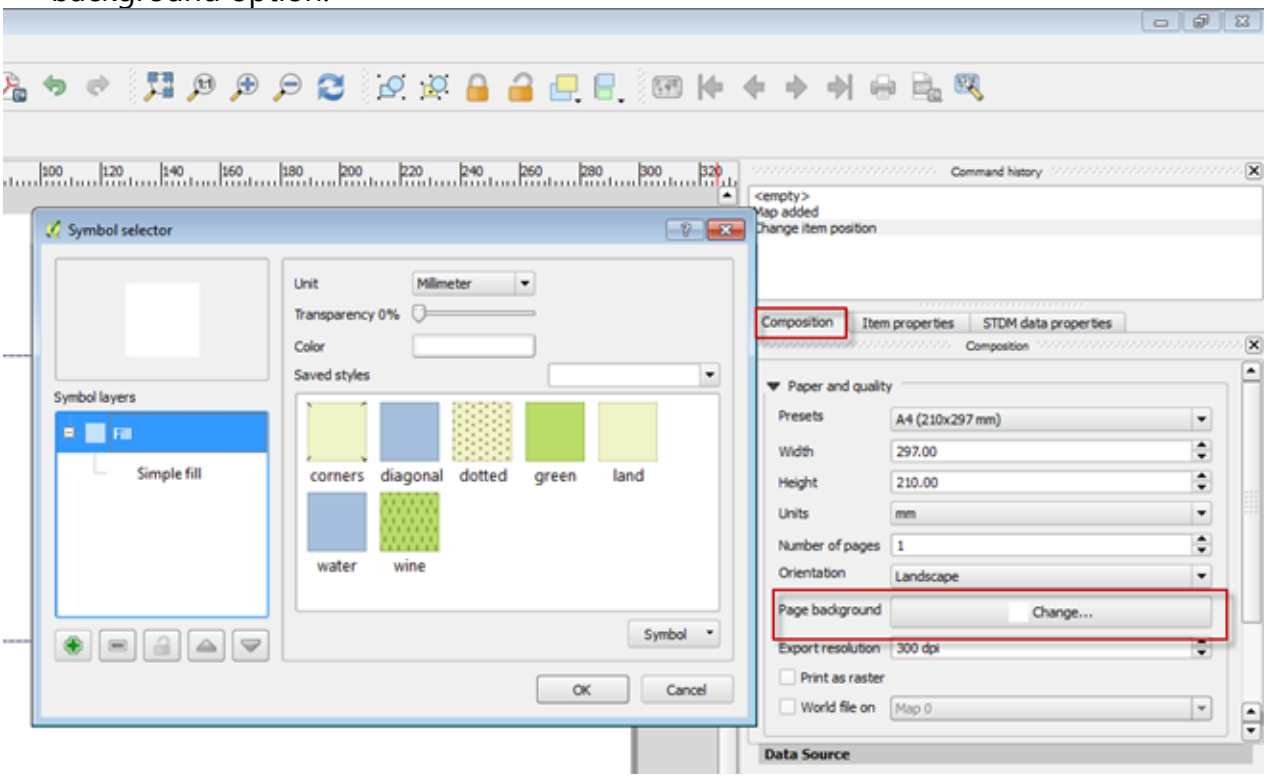
The designer will start with an empty field where the user can work on to set up all properties and utilities of a map.

Adding a new map field.

- First click on the add map button to set up a new map on the designer field.



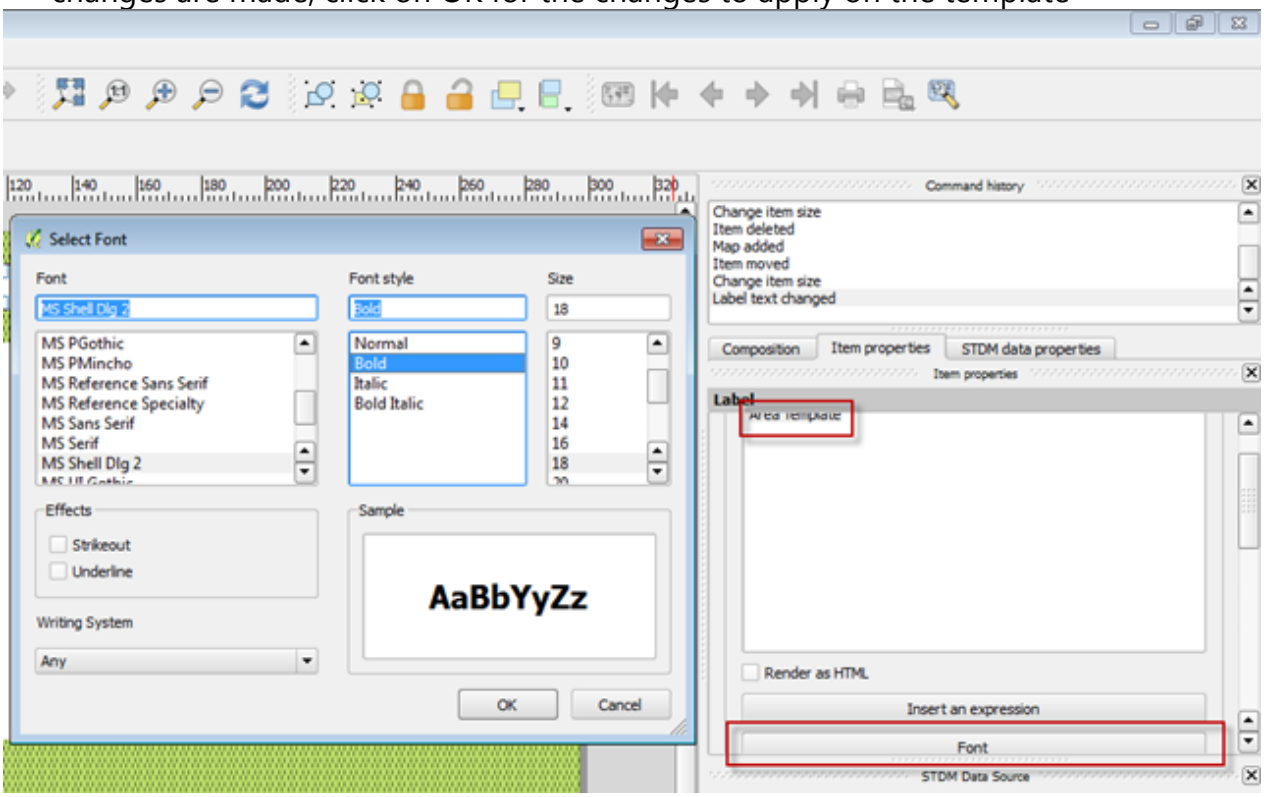
- Next user can draw the map area on the designer field and can resize it accordingly
- User can opt to change the map back ground on the designer field. To do this, click on the composition tool bar on the right side of the designer then select the page background option.



Click on the change button then select a suitable background from the options available then click OK to apply the page background.

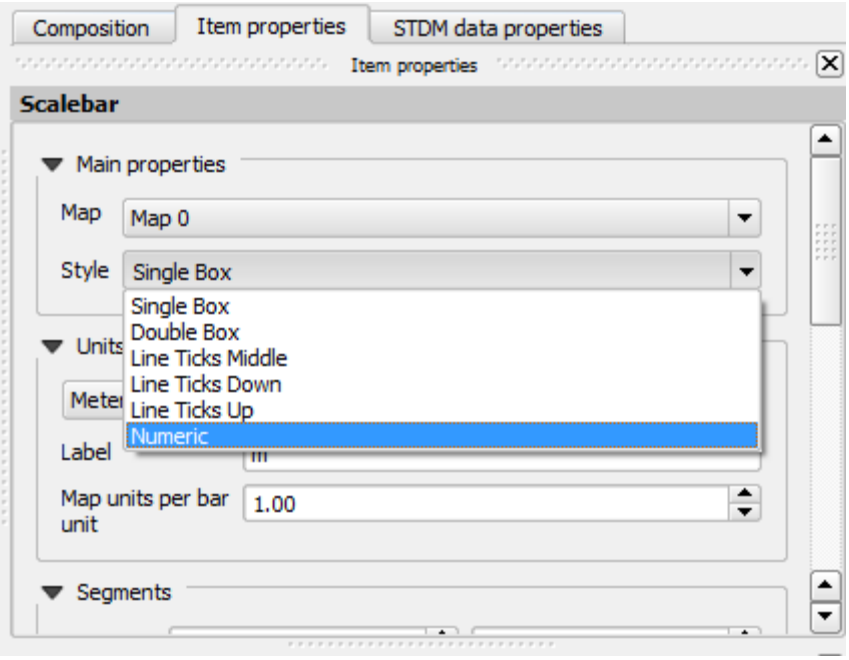
Adding a map title.

- Add a template title on the map created. To do this, click on the new label button , this will set up a new QGIS data field where the user can label the template. To type down the title, click on the item properties button on the designer task pane. From here user can also change the font properties of the title text. Once all the changes are made, click on OK for the changes to apply on the template



Setting a map scale.

- Next, put a suitable scale on the map for distance measurement. To place a new scale bar, click on the button . Then place the scale bar suitably below the map,s space placement. Next user can set the properties of the scale bar and the scale bar style.



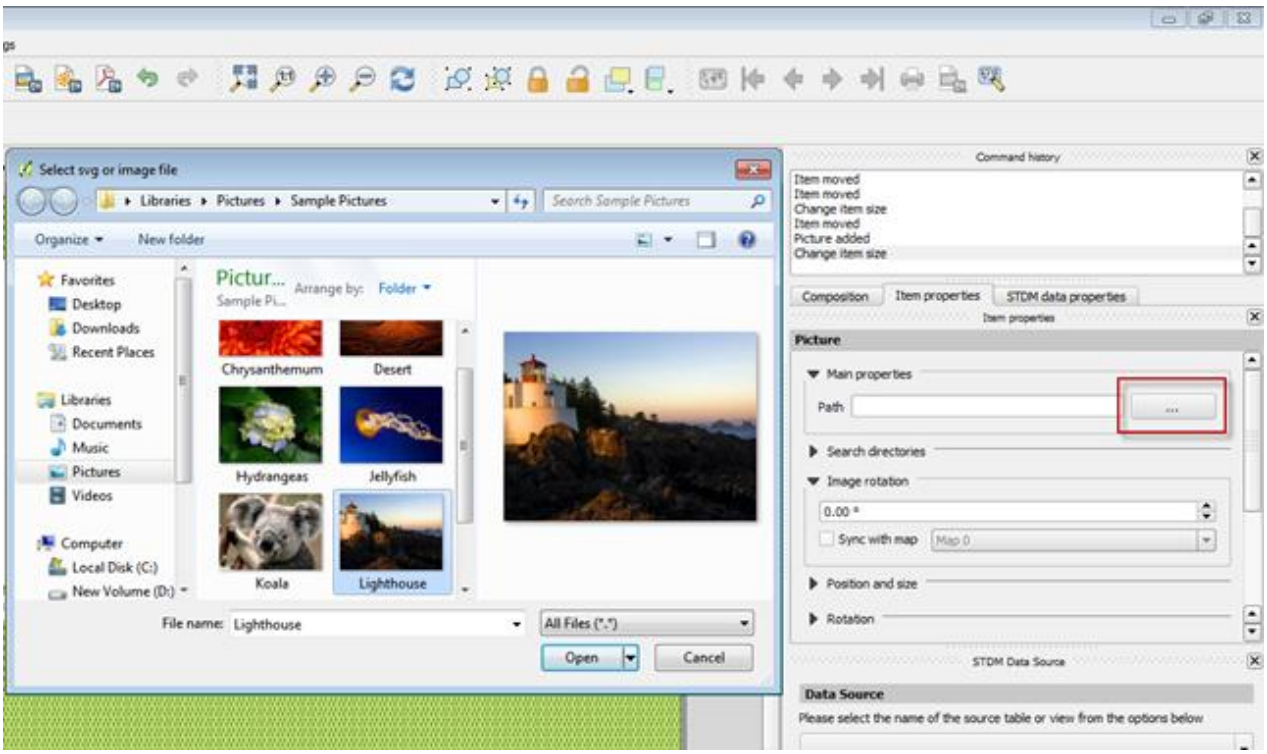
Any changes made on this item properties task pane will affect the scale bar placed on the template. The scale used should give a true reflection of the actual distances and content size on the ground for which the map represents.

Adding a legend.

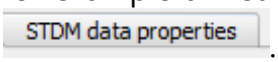
- Next, place a map legend on the template. To add the space placement for the legend, click on the add new legend button on the template tool bar. The legend can be preferably placed on the bottom left corner of the template but the template arrangement is as the user wishes. The system mainly picks the template legend from the STDM database.

Adding an image.

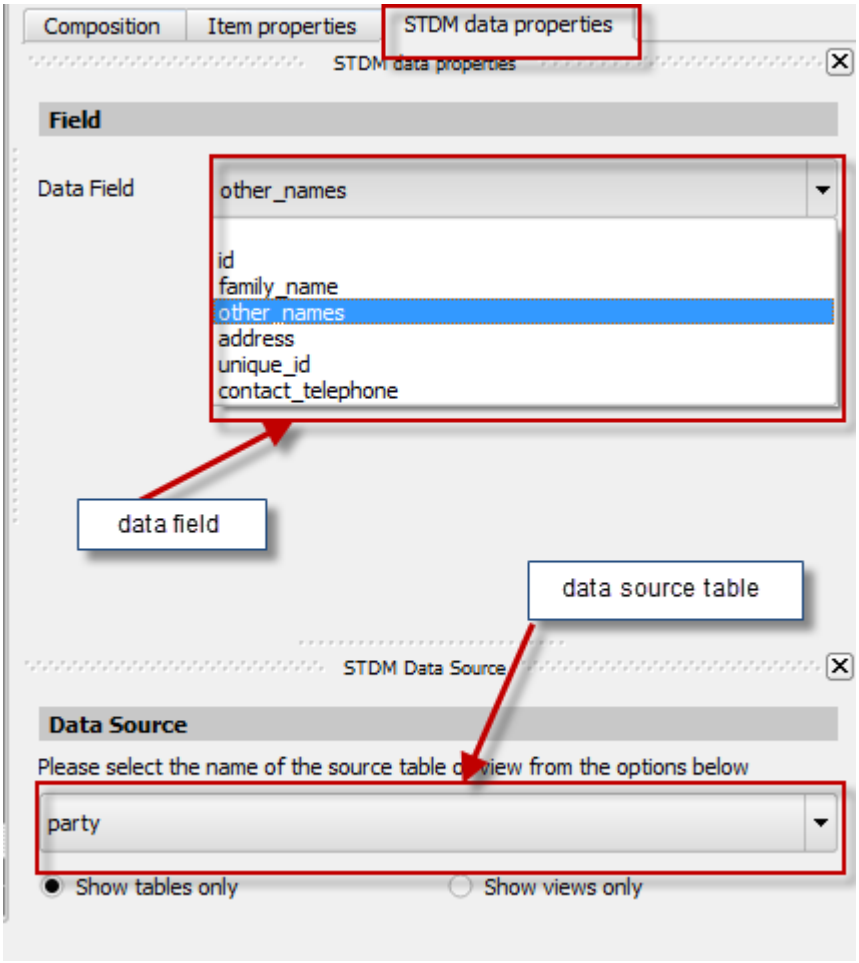
- User can also place an image on the template, To do this, add a space placement on the template where the image will appear. Click on the the add image button then put the placement on an ideal place on the template. From the item properties task pane, the user can select a path from which the system will select the image to put on the image placement.



The button in the red box will open the wizard where user can select an image from the computer. Once image is identified, click 'open' for the map to appear on the template being worked on.

- Next user should name the image placed on the template. click on the data label button , next put the space placement for the data label below the image created. User can place multiple STDM data labels if the image has more than one name. For example a first name and a last name. Click on the STDM data properties button 

. This will source the name from a data source list below the task pane.



Using STDM database tables

To use tables as source of the data for the fields, defined views or tables can be loaded as follows:

Select the data source from the available options by clicking on it. Then select a data field above the task pane, the information selected on the data field is what will appear on the data label for the image.

Adding a north arrow.

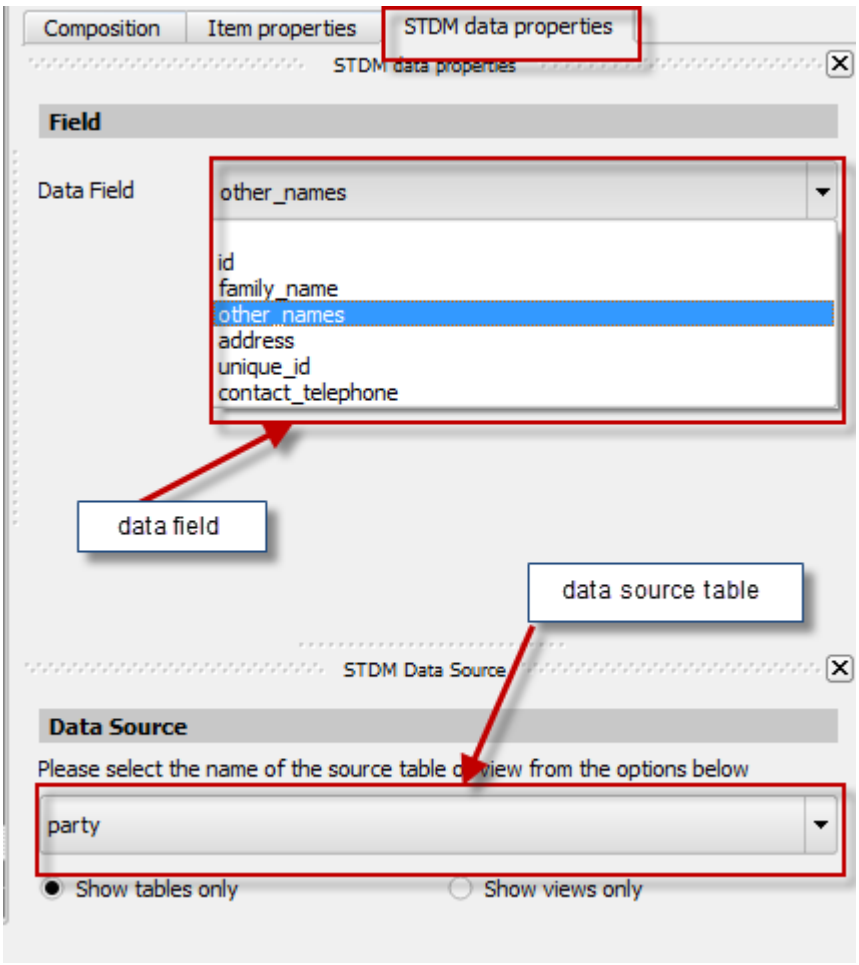
- Next user should place a north arrow with the map's true north. Pick an arrow from the menu bar with the button and draw it facing upward for north. The arrow can preferably be placed on the bottom right side of the map.

On placing the north arrow the template should appear more or less close to the image below

Adding a signature field.

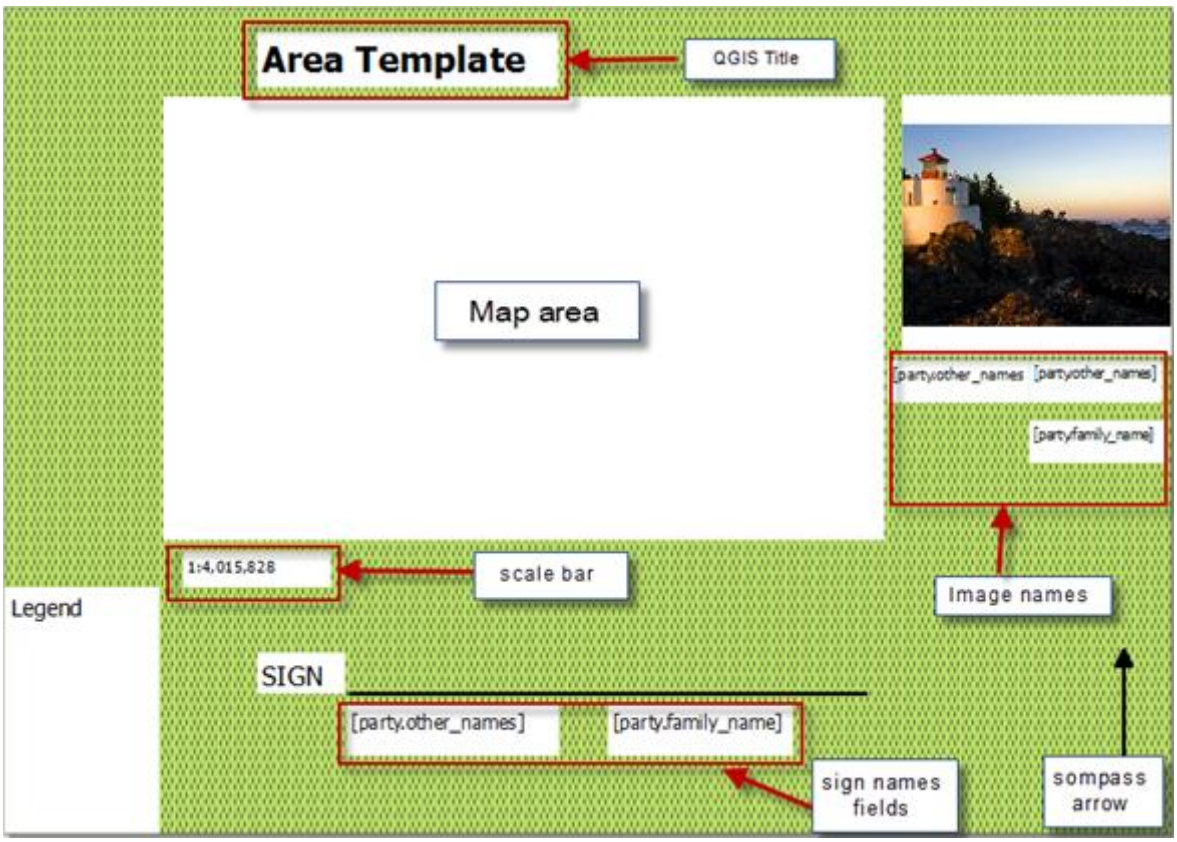
- From here, set up a signature placement below the template. Click on the line button to and draw a signature line below the template. This can be accompanied by an STDM data field for the sign label. The signature line and data fields can be resized and edited on the item properties task pane.

To select the name to place on the data field, click on the STDM data properties button and select which data source to use in the field. Next select the data field from the list available from the data source the user selected. The data properties button is shown in the red box below.

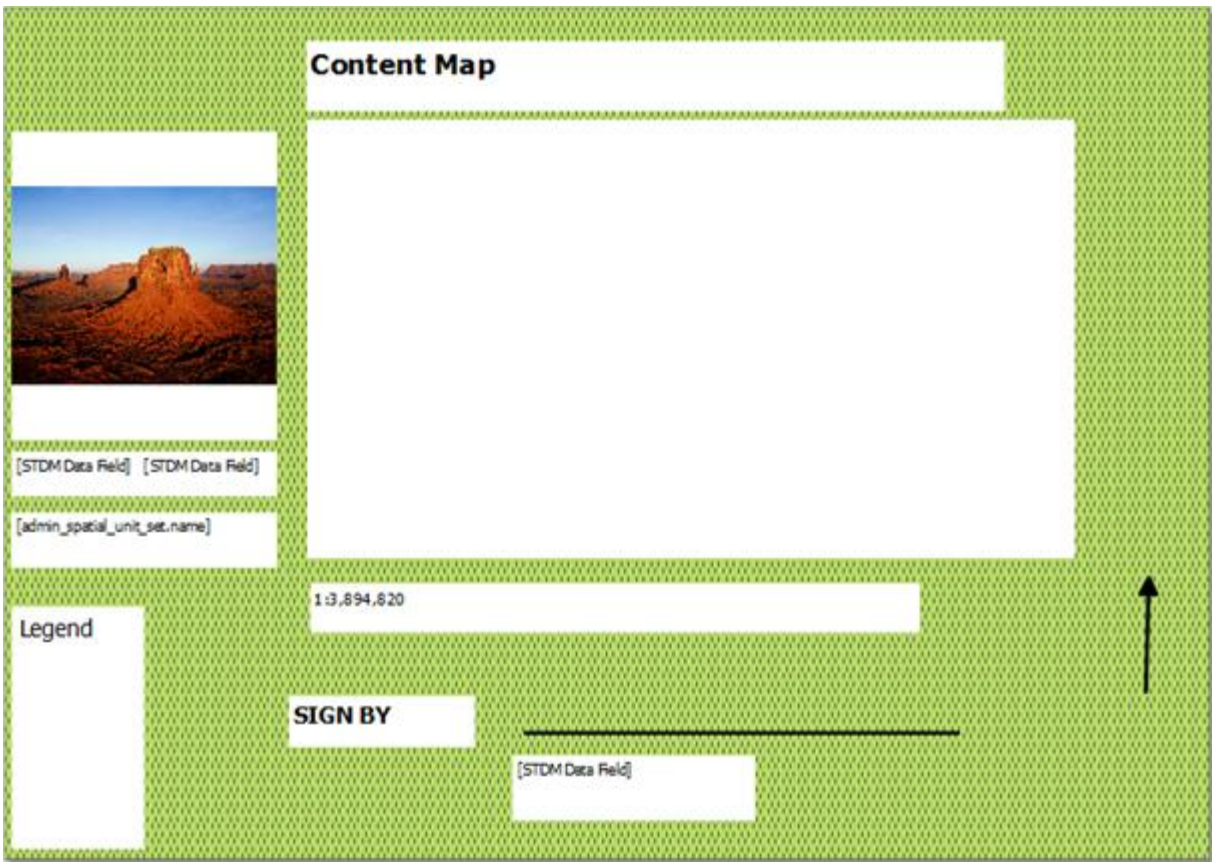


- Next place STDM data fields below the line for the name of the user signing the the template.

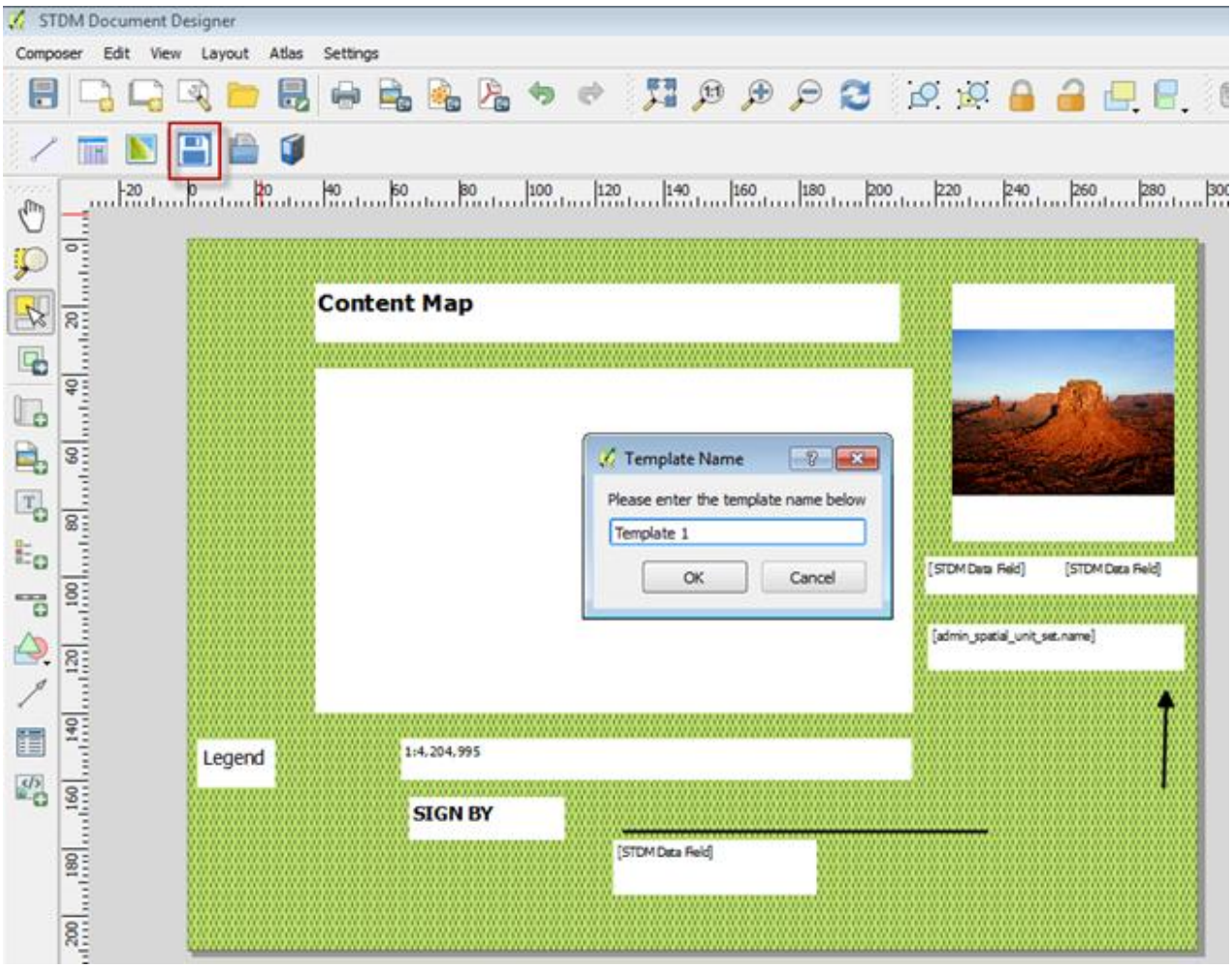
The template should now appear as shown below with all the content applied in the steps above.



Template arrangement my differ depending with the template's content and the users liking. It should however be clear with all the information pertaining to the intended use of the template. An alternative arrangement may be as shown below.

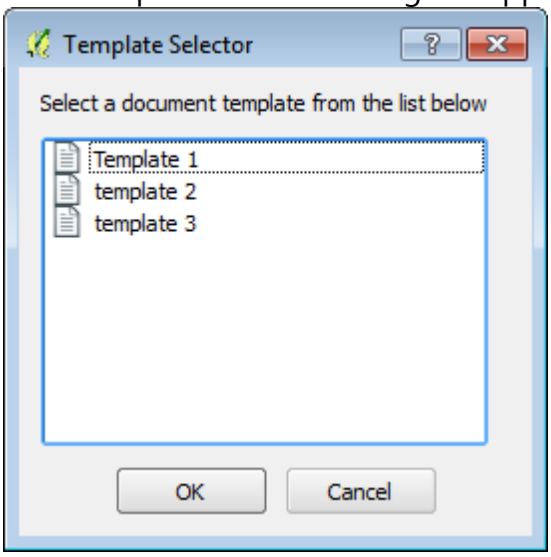


- After all the content is placed on the template, user should now save the template. Click on the save button shown in a red box below to save the work.



This will prompt a name dialog where user should input the name for which to save the template with. Type down the name and click OK to to save the work.

- To access a saved template on a later time click on the button on the menu bar. A template selector dialog will appear with all the saved templates.



Click on which template you want then OK to launch the selected template.

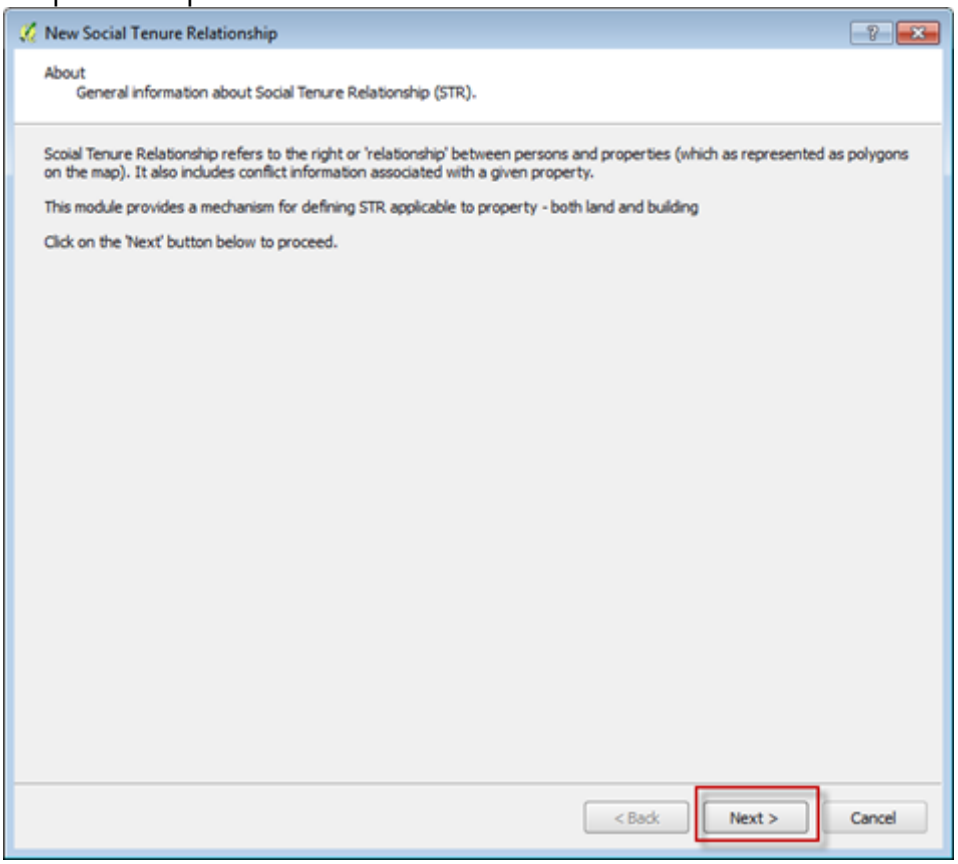
Defining new Social Tenure Relationship

Social tenure relationship.

The social tenure relationship can be defined as the relationship between a party/person and a map of its content. This may be in form of land or buildings on a map or any other property and its relationship with a person on the data base.

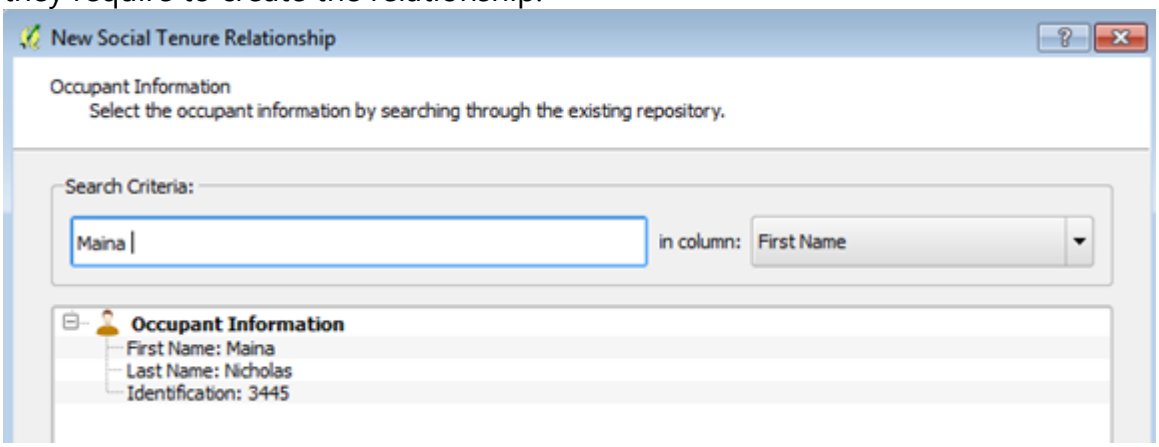
Setting up a social tenure relationship.

To set up a social tenure relationship, click on the module settings button on the QGIS tool bar and select 'social tenure relationship from the modules available on the drop down options.


New Social Tenure Relationship
About
General information about Social Tenure Relationship (STR).
Scoial Tenure Relationship refers to the right or 'relationship' between persons and properties (which as represented as polygons on the map). It also includes conflict information associated with a given property.
This module provides a mechanism for defining STR applicable to property - both land and building
Click on the 'Next' button below to proceed.
< Back
Next >
Cancel

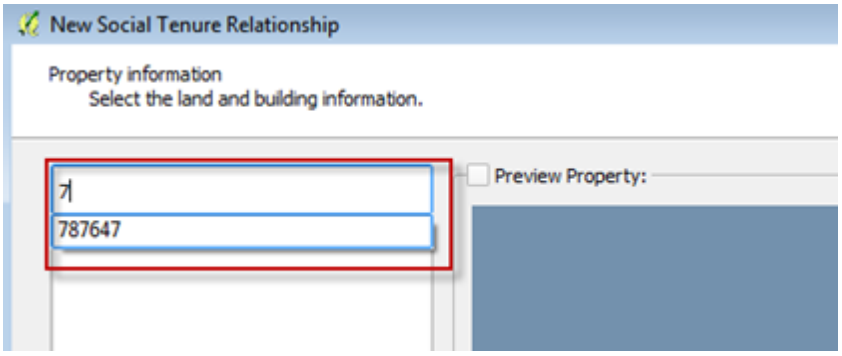
The new social tenure relationship dialog will appear. Click on the next button to proceed. The back button will not be active since this is the first step, however the cancel button is active n by pressing this the user will exit the proceeding and go back to the QGIS main window.

On the next dialog, the user is required to input a map occupant information for which they require to create the relationship.



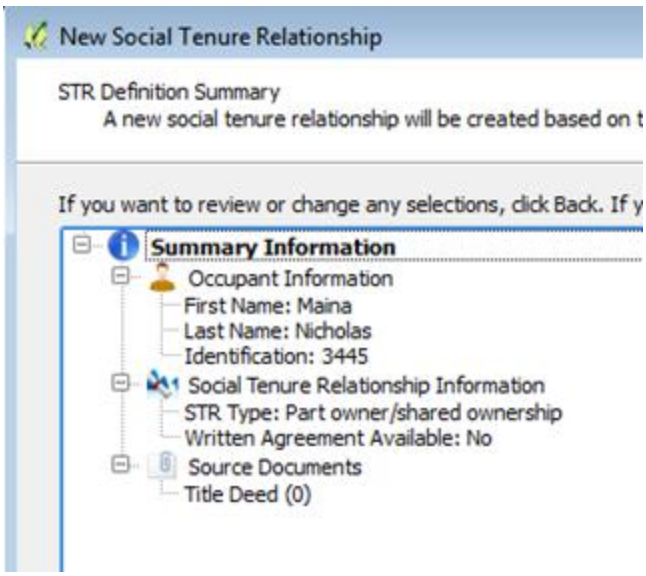
The search criteria may be by first name, last name or ID number depending on the user's knowledge with the occupant. If the name inputed is shared by multiple occupants, user should use the other criteria to identify which occupant is targeted.
Once the occupant is identified, all the information pertaining to the person should appear below the search. click on the next button to proceed.

On the next wizard the user is required to input the property information for which to create a relationship with the user. This maybe in numeric form and should be put on the field identified in a red box below.

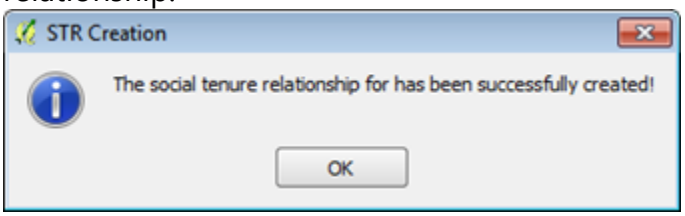


On the right hand side of the field is a preview area where property preview can appear by checking or unchecking the box besides the preview title.
On feeding the property information, click on the next button to proceed.

The next wizard is where the user selects a social tenure relationship of the identified occupant and the selected property. The wizard has an STR Type field where there are several different relationship types. From the drop down options, select the required relationship type and click the next button.


New Social Tenure Relationship
STR Definition Summary
A new social tenure relationship will be created based on t
If you want to review or change any selections, click Back. If y
Summary Information
Occupant Information
First Name: Maina
Last Name: Nicholas
Identification: 3445
Social Tenure Relationship Information
STR Type: Part owner/shared ownership
Written Agreement Available: No
Source Documents
Title Deed (0)

A social tenure relationship summary will appear with all the information provided. This will be the last wizard and by clicking the finish button, the user will create the relationship.

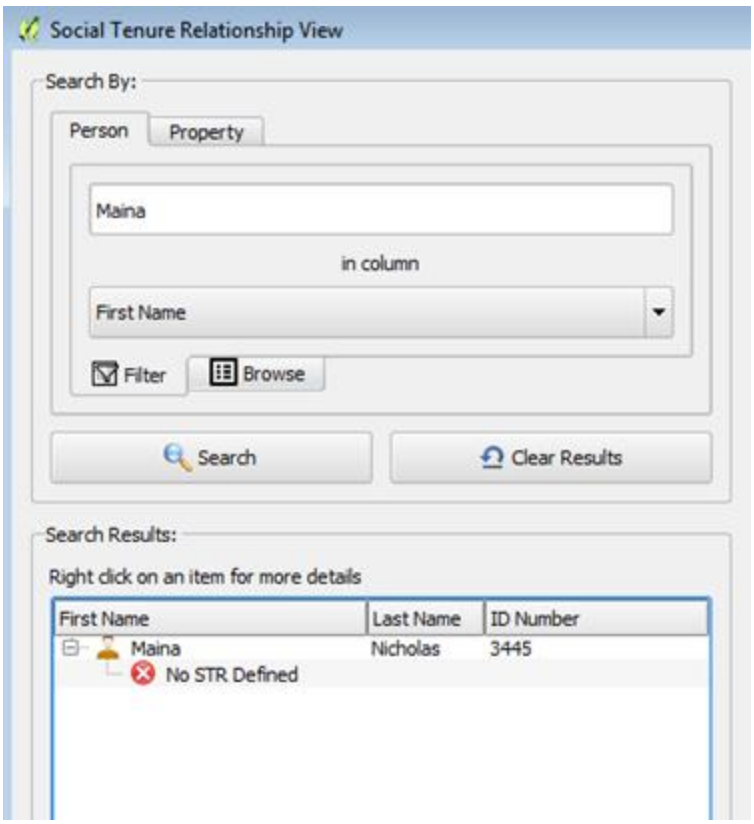


The success dialog above should appear confirming the action. click OK to proceed with creating the new relationship.

Viewing Social Tenure Relationship

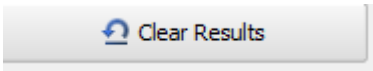
View social Tenure Relationship.

To view the social tenure relationship, click on the view STR button from the QGIS tool bar. This should start a view STR wizard where user can view the created relationship.



On the name field, type down the occupants name whose relationship was created. There is a criteria table below the name field for the occupants search. Once the name is feed on the system, click on the search button. The search results will appear on a field below the dialog with all the information of the relationship.

The STR view wizard also has an option to search the relationship by property information. Click on the property menu bar on the wizard and on the field available, type down the property information and click the search button. The relationship information should appear similarly with the name search.

To search a different occupant's information, click on the clear results button. 

This will clear all the available information on the viewer panel and fields for a new search.

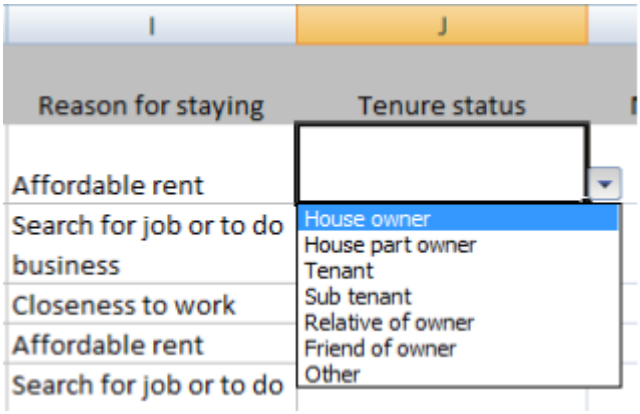
Spreadsheet data management

Preparing Spreadsheet data for STDM

Enumeration data collected is usually in excel format. This data is formatted to conform to **STDM** modules so that it can be imported directly to postgres database.

Formating spreadsheet data

Creating excel spreadsheet with lookups

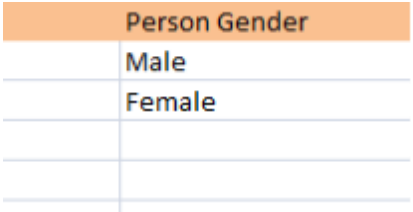


Drop-down list makes data entry easier in Excel and restrict data recording to that in the list.

This eliminates typing error as well as saving on time. A drop-down list can be in column or row format.

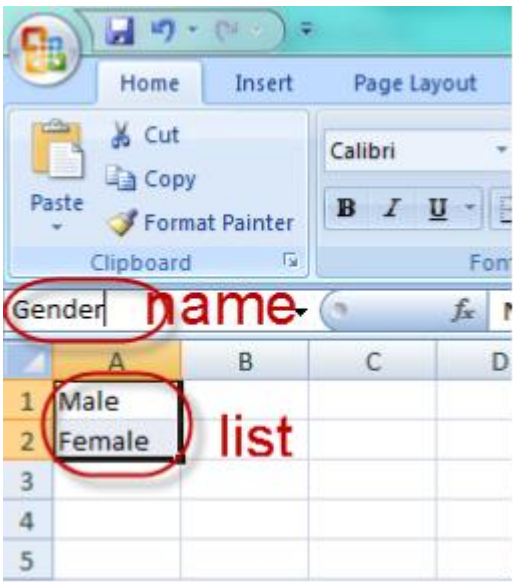
steps followed when creating a list in column:

- Define the entries for the list in the order you want it to appear e.g. [Male, Female}
- Type the list in the given cells without having a blank cell in-between.



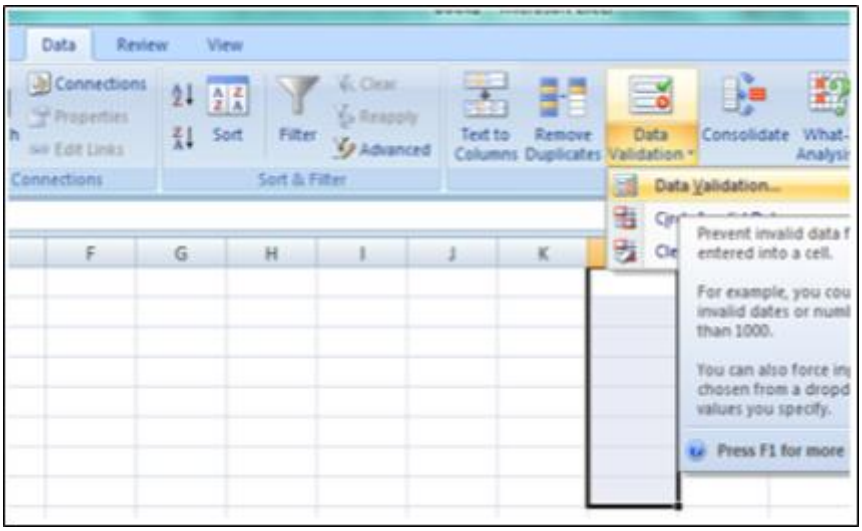
The list may be in the same or different worksheet.

- For a list in a different worksheet, type the **list** on that worksheet and define a **name** for it.

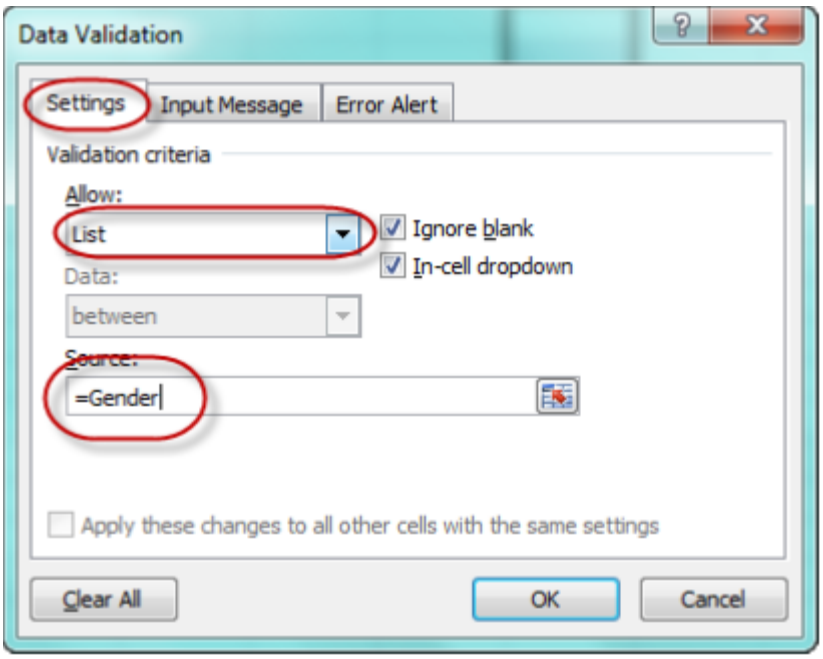


Adding the list to a cell

- On the working sheet, select the cell you want.
- On the **Data** menu, click **Data Validation.**



- Click the first tab **Settings** tab in the new dialog window.



- In the **Allow** drop-down box select **List**
- Specify the Source of the list by;
- If the list is in the current worksheet, enter a reference (range) to your list in the S**ource** box

  If the list is in another worksheet, enter the name that you defined for the list in the **Source** box.
- In both cases, make sure that the reference or name is preceded by an equal sign (=).
- To specify whether the cell can be left blank, select or clear the **Ignore blank** check box

Removing drop-down list

- Select the cell within the list
- Click the **Data** menu and then click **Data Validation**.
- In the **Data validation** dialog box that pops up
- Click the **Setting** tab and then click **Clear All** button at the bottom of the dialog.

For more help visit:

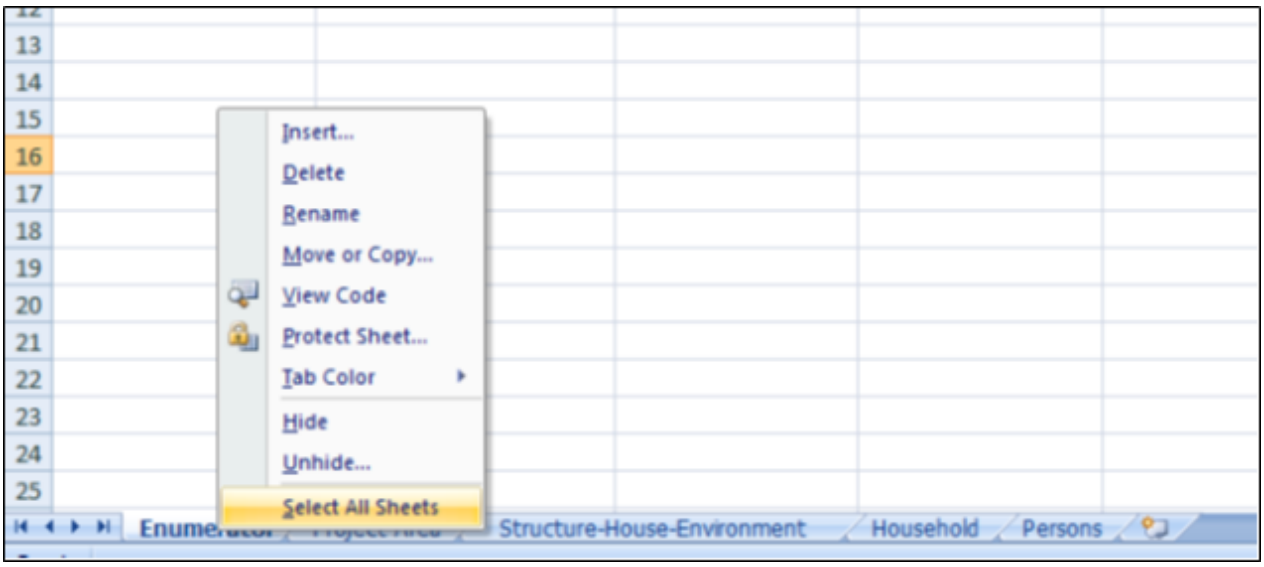
http://www.office.microsoft.com/en-us/excel-help/create-or-remove-a-drop-down-list-HP005202215.aspx

Adjusting sheet columns and rows to uniform width

This can be done either in Microsoft excel or Open Office spreadsheet.

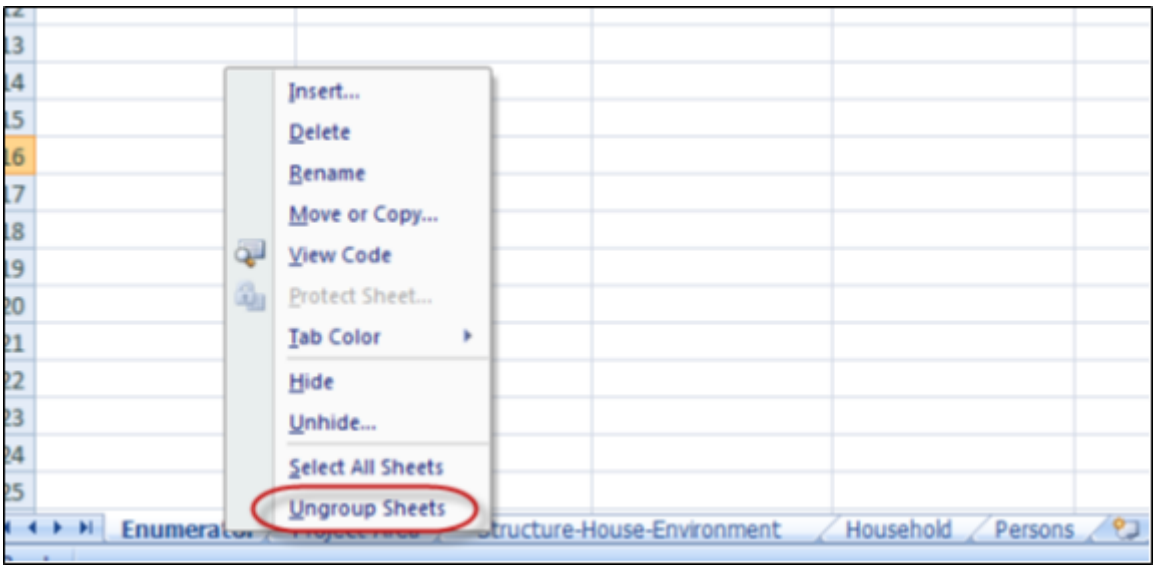
This guide will use the Microsoft excel.

- Open the excel workbook if it's not opened.
- Select all cells in one sheet. You can use the shortcut (**CTRL+A)**.
- Right click on the **current sheet** tab in the workbook and on the shortcut panel click ***Select All Sheets***.



This will ensure that any formatting you do on the current sheet will apply to all other sheet in the workbook.

- Go to the **home** tab of the excel document in the **Cells** group, click **Format**.
- Under **Cell Size**, click **Column Width**.
- In the **Column width** box, type the value that you want.
- You will find that the column for all the sheet have now been adjusted to the new width.
- If you are okay with the new width, un-select the sheets from the shortcut menu.



For more information go to:

- http://www.spreadsheets.about.com/od/excelformatting/How_to_Use_Excel_Formatting_Features_Format_Excel_Spreadsheets.htm
- http://www.office.microsoft.com/en-us/excel-help/change-the-column-width-and-row-height-HP001216383.aspx.

Formatting cell values (Cleaning the data)

Capitalizing person's names

The example uses random cells numbers.

To extract and capitalize the first name from the name collection, use the following function:

=IFERROR (PROPER (LEFT (A2, (FIND (" ", TRIM (A2))-1))),"")

To extract and capitalize the last name from the name collection, use the following function:

=IFERROR (PROPER (RIGHT (A2, (LEN (TRIM (A2))-FIND (" ", TRIM (A2))))),"")

To extract and capitalize sex information if defined as MALE, FEMALE, M or F in the Sex collection, uses the following function:

=IF(D2="MALE",PROPER(D2),IF(D2="M","Male",IF(D2="F","Female",IF(D2="FEMAL

E",PROPER(D2)))))

To check if an integer cell is defined or set as a blank text if specified as zero:

=IF (F2>0, F2,"")

To set an option cell as a blank text it's specified as NA:

=IF (W2="NA","", PROPER (W2))

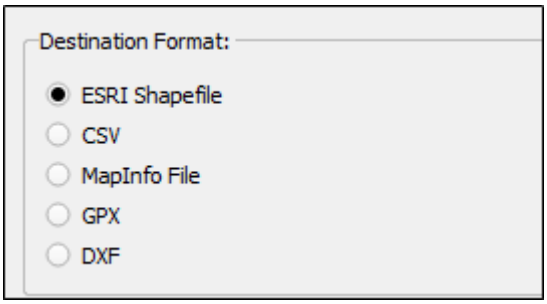
For more help visit

http://www.office.microsoft.com/en-us/excel-help/

Data Import/ Export

Once all the data has been cleaned, the next step is to import that data to the **STDM** database (Importing data)

A number of formats are supported



Exporting data involves taking the data from STDM database to any of the above formats.

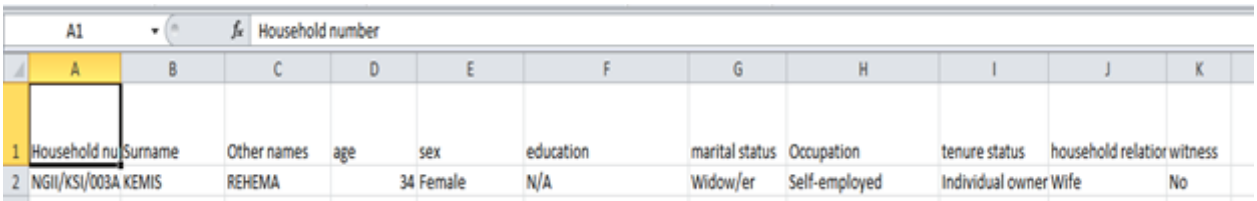
Importing data to STDM

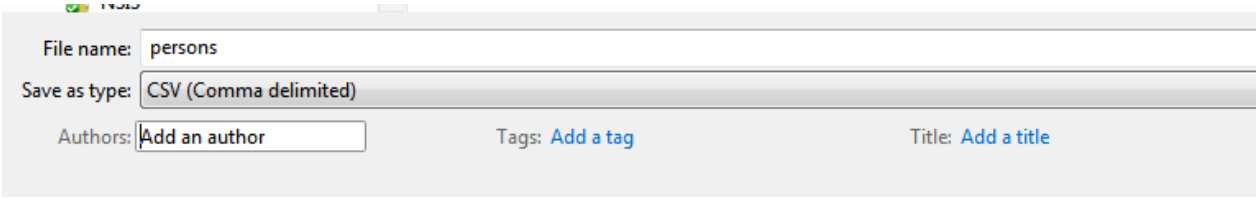
Using STDM Data Import Wizard

Open the Excel workshop containing the data to be imported (e.g enumerated persons.xls)

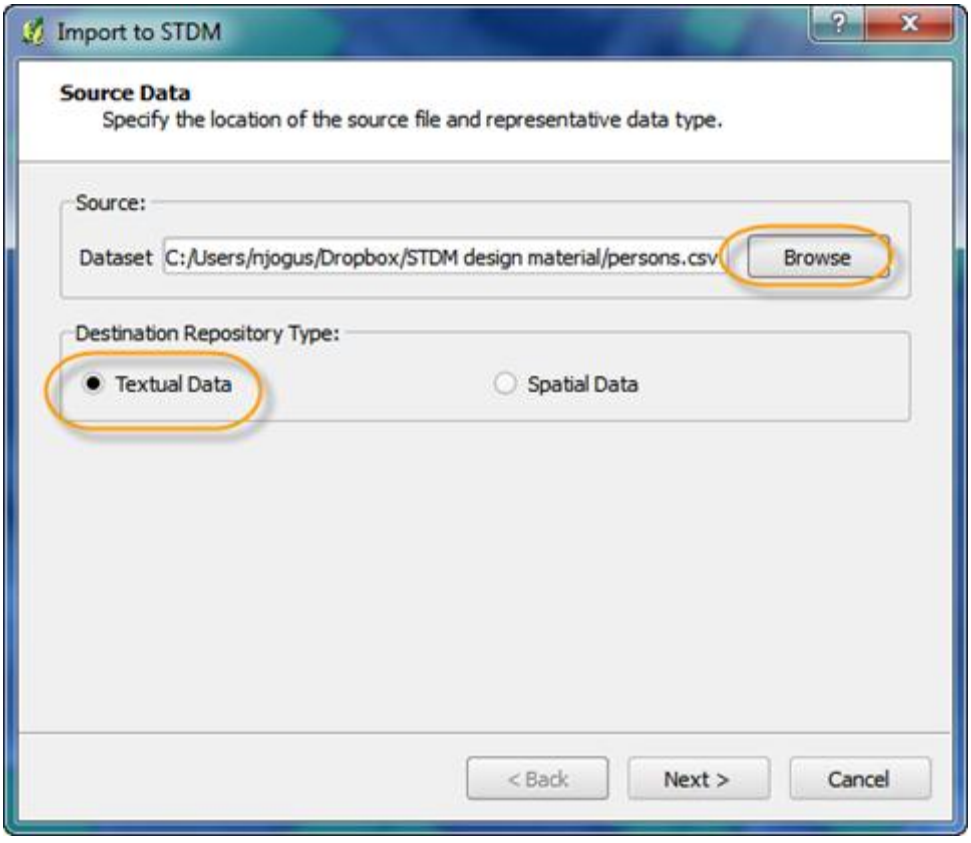
Clean all the data to the provided data entry template

Save the file as ******.csv (Comma Separated Values). The filename is given as desired(adopt the module name for easier reference)


A1
Household number
A B C D E F G H I J K
1 Household nu Surname Other names age sex education marital status Occupation tenure status household relatior witness
2 NGII/KSI/003A KEMIS REHEMA 34 Female N/A Widow/er Self-employed Individual owner Wife No



Open STDM data import wizard



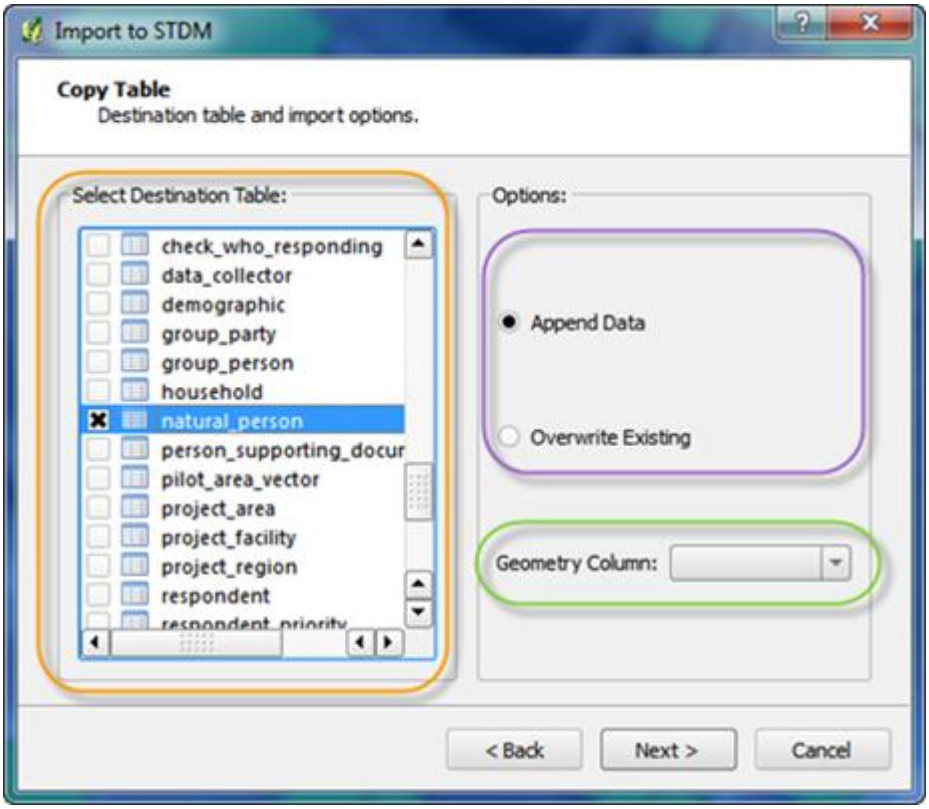
2. Browse to the location of the (.CSV) field saved earlier.

3. Ensure Textual Data is selected
table type where the data will be copied to :

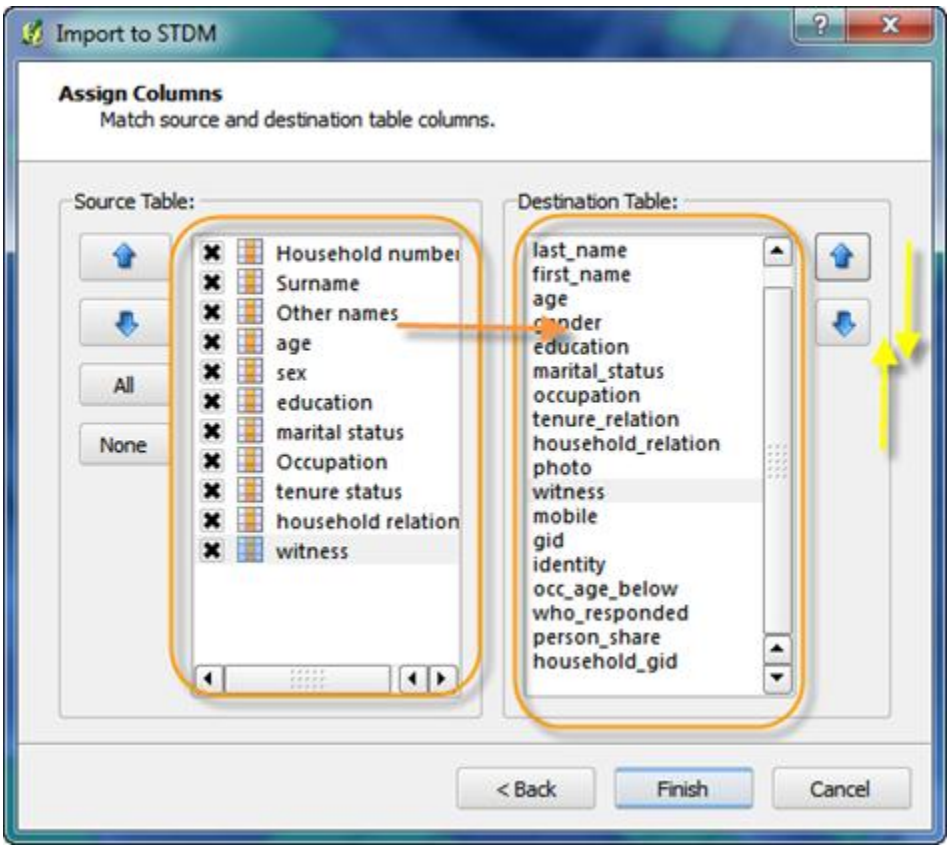
a.Spatial table (contains geometry column)

b.Non-spatial table (textual data only)

4. Click Next
5. Specify the destination table (i.e party, natural_person, households, spatial_unit)
6. Choose to append to existing table or overwrite existing to start new data.
7. If the specified table has geometry columns, they will be populated in the combo box, In that case select the geometry type(i.e polygon)



8. Click next to proceed.



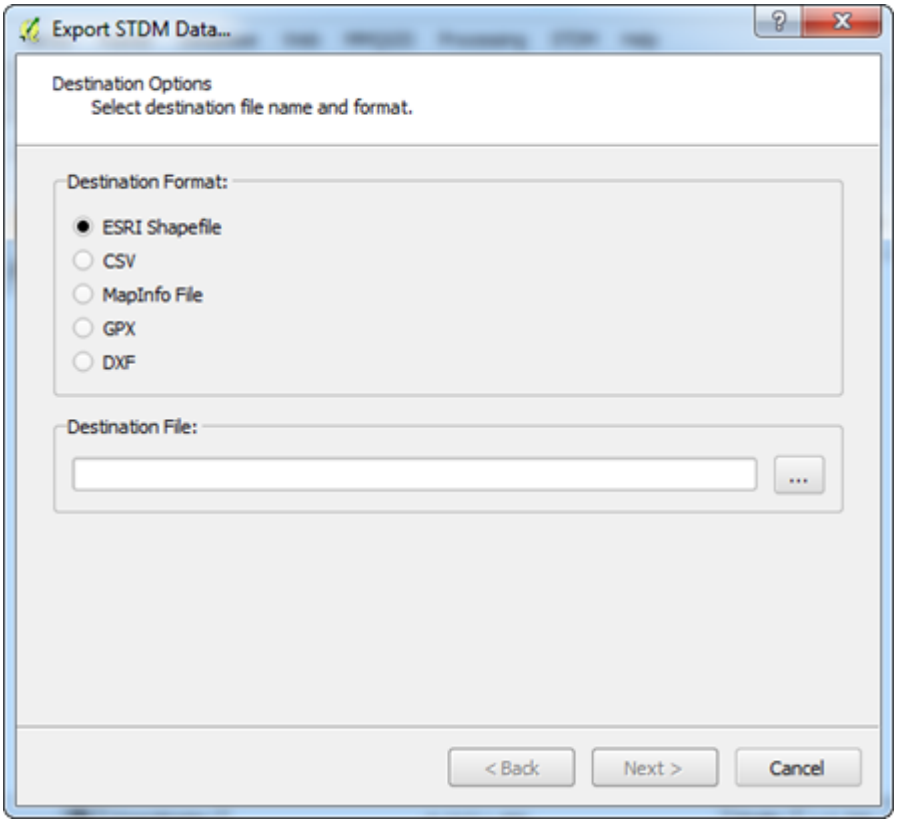
9. In the source table options, select the column (Excel workbook column) that you want to import into STDM.
10. In the Destination table option(STDM database table column), select the column to which the import data will be copied from source column.
11. The matching should be one to one.
12. Ensure the source table column is selected, likewise, in parallel, a corresponding column in the destination table will be highlighted as well.
13. Do the matching for all the intended option columns
14.Use the up and down arrow to correlate the column data (column matching)
15. Click Finish.
14. A progress dialog will run to show the progress.
Data is imported successfully.

Repeat for all the modules data collected

Exporting data from STDM

Export data from STDM database to specified format using STDM wizard for export

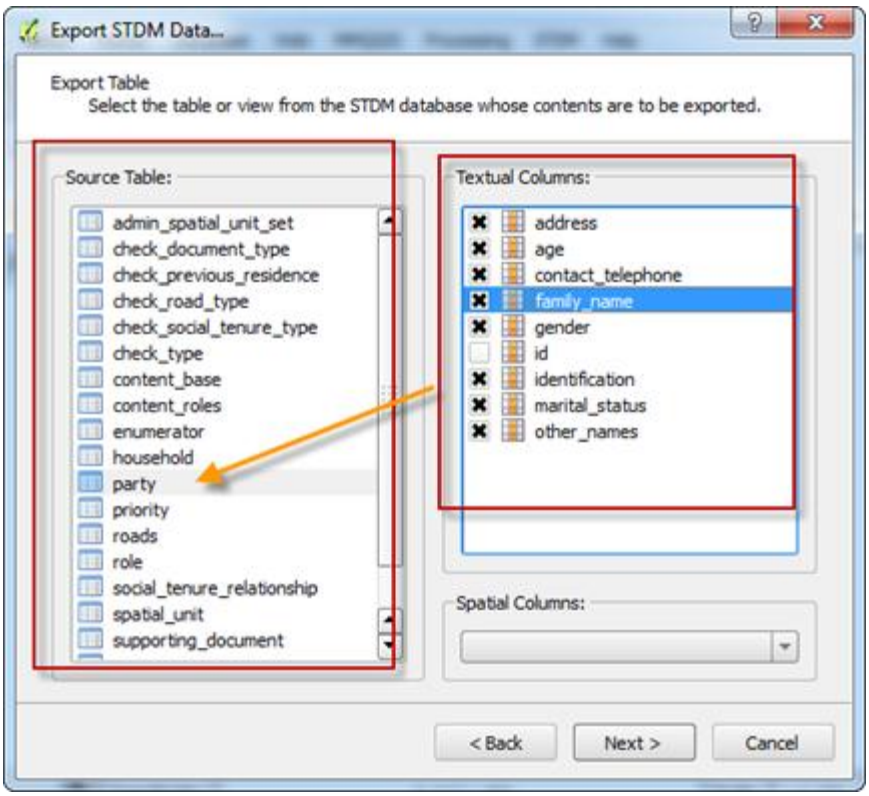
select Export Data command item from the menu.



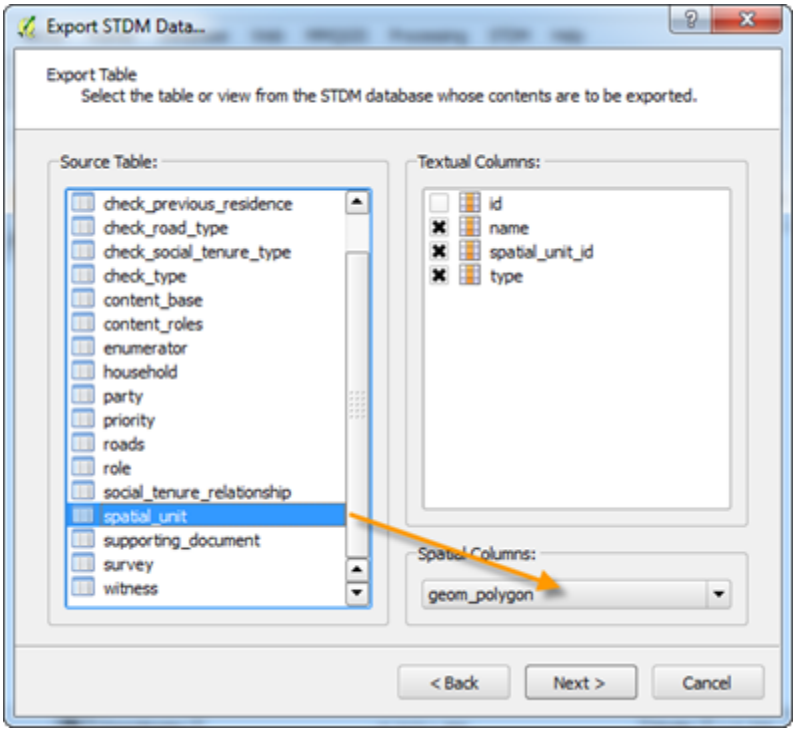
Select the destination format from the list

Browse to save location of the file (Destination File) and give the output file a name.

Click next

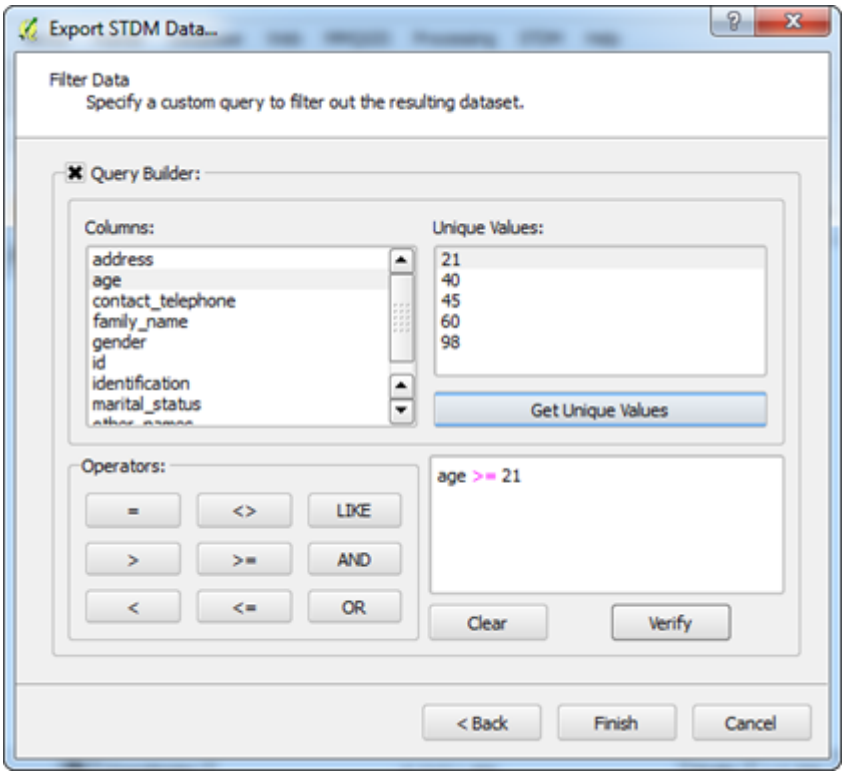


Select the data source table on the left panel.
Select the required / columns from which the data will be fetched in the selected table
If the data source table has geometry columns, the geometry column to be exported need to be selected



Click **Next**

If specific queries need to be implemented on the resultant data, they can be specified using the query builder as shown below



If no queries are required, on the query builder, leave the Query Builder unchecked and click finish.

A message box will prompt the response when the action is completed. dismiss the dialog.

Browse to the location of the file to see the results. If you are not satisfied with the result, the process can be repeated with new options.

Working with GPS

What is GPS?

It is a Global Positioning System (GPS), a satellite-based navigation system constituting a constellation of more than 24 satellites and their ground stations.

The use of GPS circles around precise positioning of objects and people including scientific studies for the purpose of obtaining useful information relative to their geographic locations.

When using GPS, the device needs to communicate with the satellite at real time to give the actual ground positions.

This is why it is advisable to use GPS device in the open field to avoid obstruction from building and trees which may hinder visibility of satellites. This has affect the accuracy of the final data.

Depending on the GPS device, a GPS receiver must be locked to signals from at least 3- 4 satellites to be able to calculate the position. The higher the signal strength in terms of satellite signals the higher the accuracy/reliability.

What to know when using GPS in the field

While using GPS in the field it is important to take note of the following.

What affect the accuracy of the data?

- Objects such as building, mountains, tall trees e.t.c have a reflection effect to transmitted signal which may cause delay to the received signal thereby introducing errors.
- The above mentioned objects also have an obstruction effect whereby the signals may be blocked thereby reducing the number of available satellites.
- The amount of humidity or density of the clouds in the atmosphere. The signals slow down as it passes through them which affect the overall accuracy of the obtained

position.

Working with Garmin GPS data

Refer to Garmin website www.garmin.com for detailed description on how to capture data using Garmini GPS.

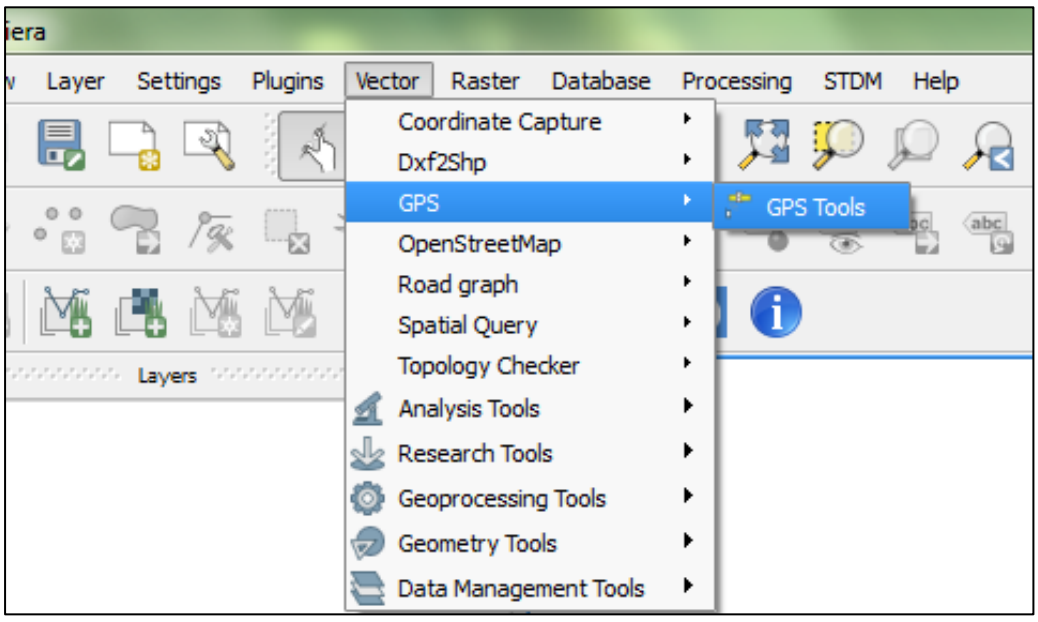
Having collected field data using the GPS, Office work remains important to put the collected data to usable format.

Garmin by defaults stores its data in World geodetic system (WGS 84).

This becomes easy to use as it can be overlayed to Google maps and other global maps or images.

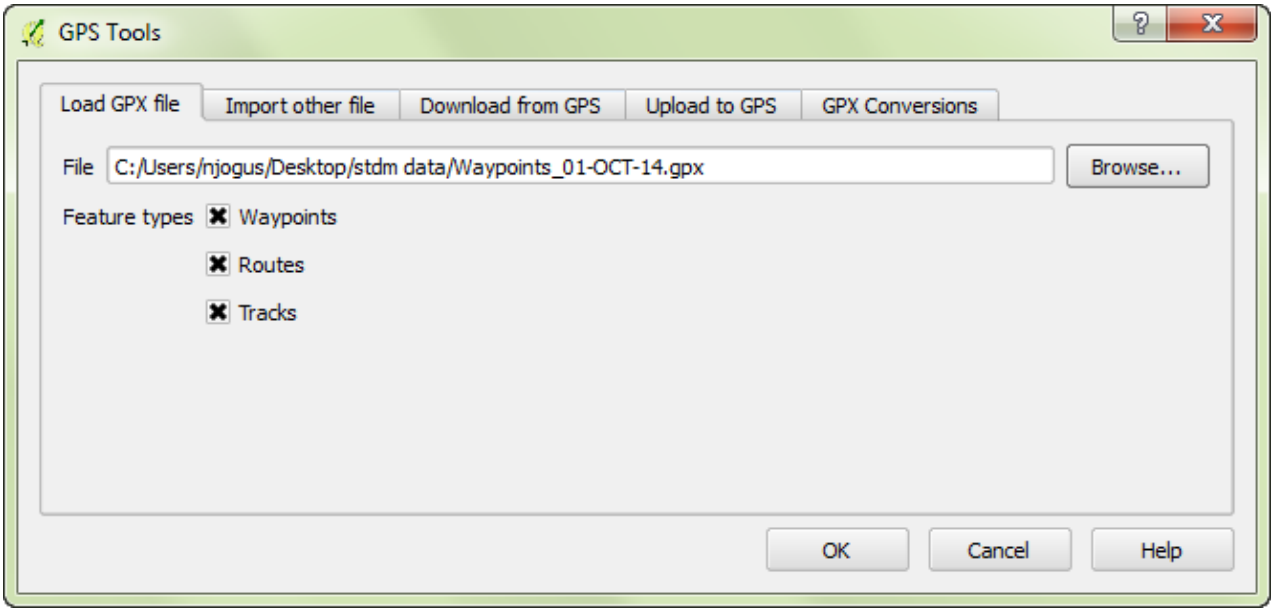
To convert this data into a layer;

- Connect the GPS to your computer (i.e. using USB cable)
- Ensure the device is visible to your computer
- Start QGIS normally
- Launch the GPS **plug-in** from QGIS, **Plug-ins>Vector>>Gps>Gps Tools**

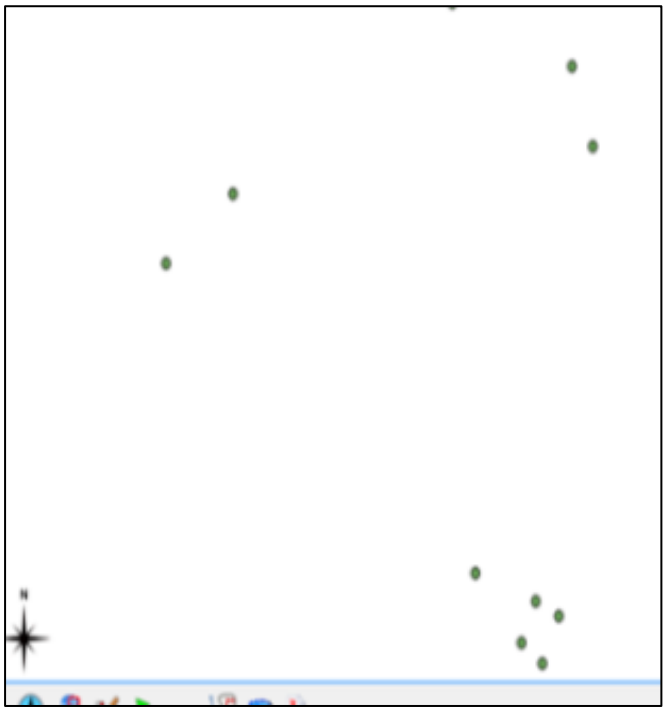


A new dialog box appears that allows you to browse to the location of field data from the

Gps.

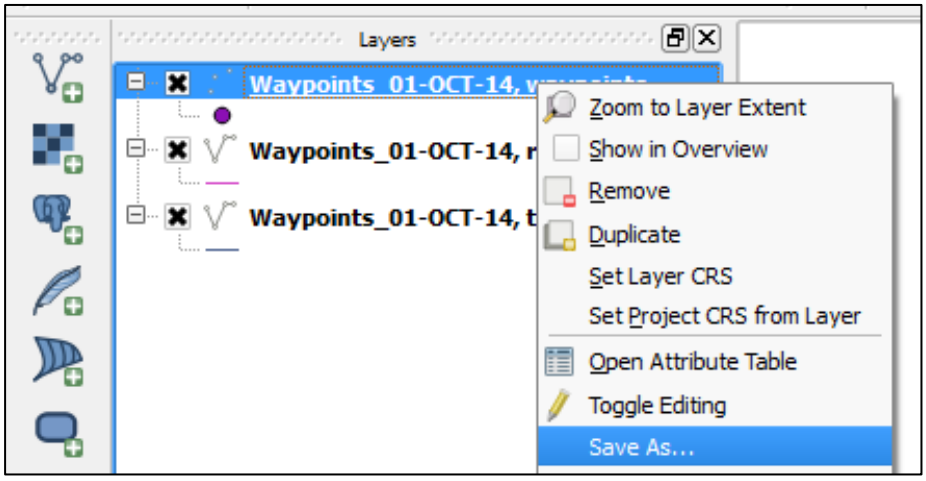


- Select on first tab ***load GPX file***
- Browse to the location of GPS data and Click **OK**.

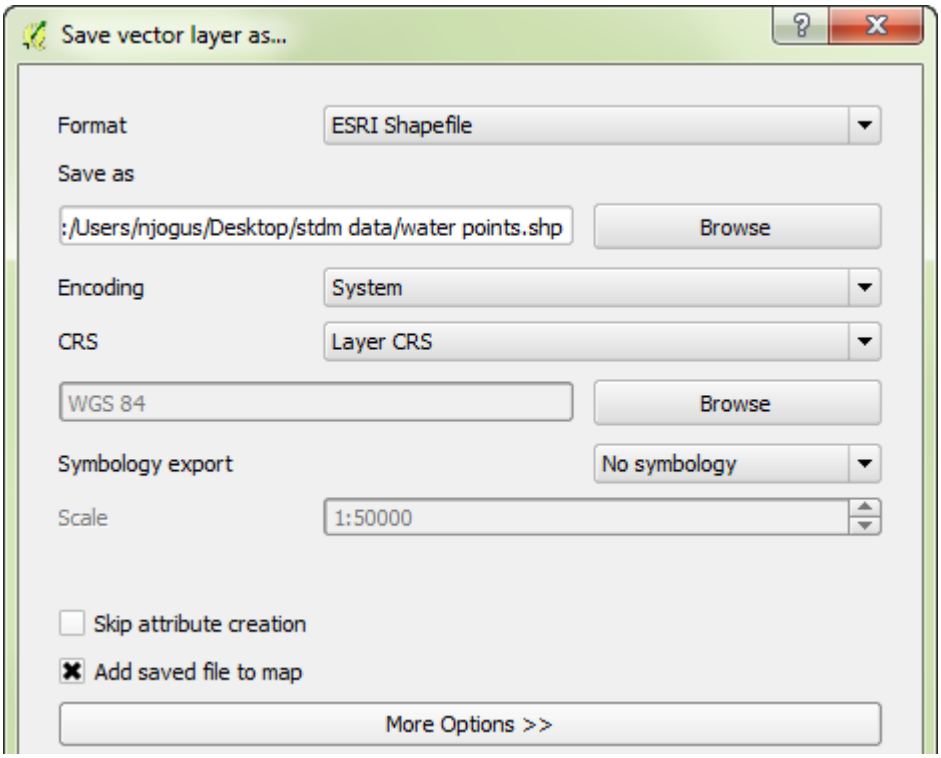


- The loaded data should appear as a scatter of point depending on what was captured if all went okay.
- Right click on the way point (probably it is the first on the list in the table of content).

- Select **Save as** in the shortcut panel and enter the details as required.



- For the format, **ESRI Shape file** format is preferred because it is supported by many GIS software.
- Provide the output path **"Save as"** and file name
- Specify the format, coordinate system for the new layer otherwise the source layer CRS original will be used.
- Do not check the **Skip attribute creation** check box.
- Click **OK**.

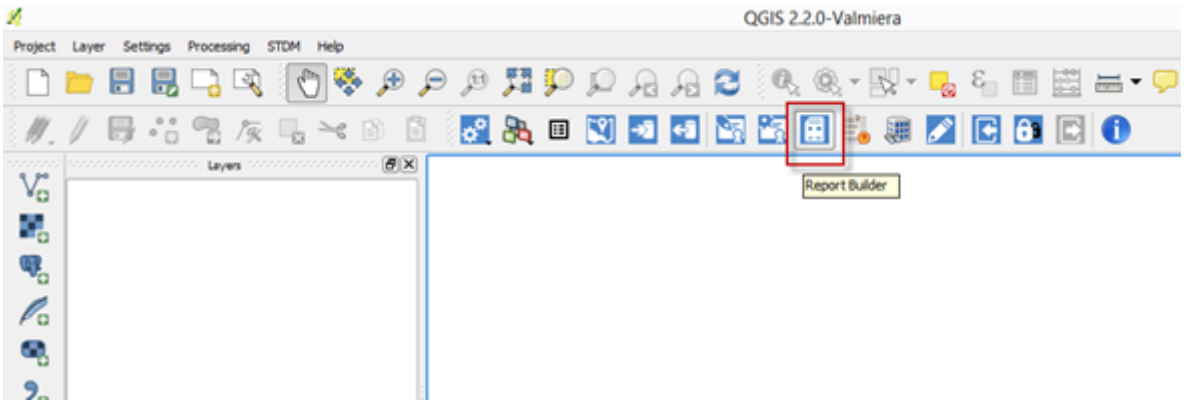


- A new layer will be created.
- Load the new layer to QGIS for further editing.

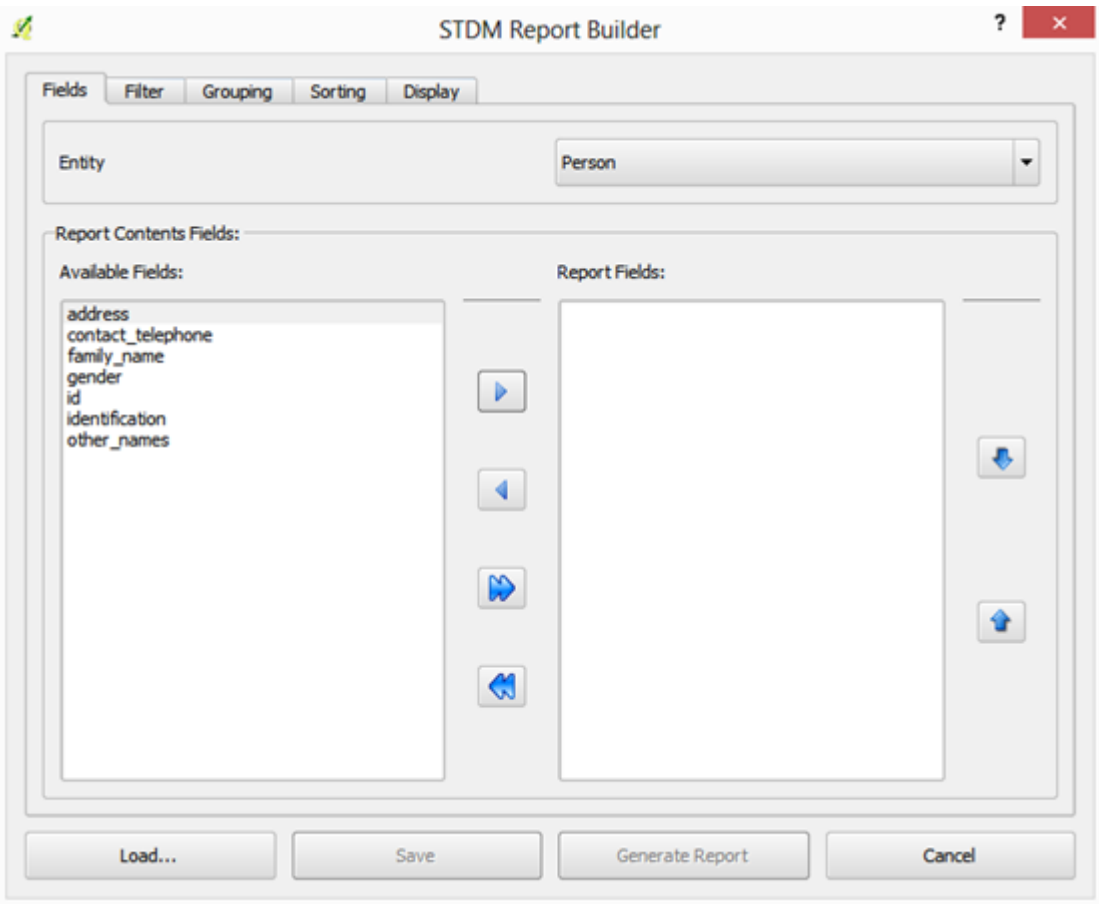
STDM Report builder.

STDM reporting Involves analysis of the textual data in STDM database and displaying results in PDF formats. Through basic to complex SQL queries, the you can produce stylish report based on the selected variables. The report builder helps in selecting, organizing and displaying the entity data from STDM database

To access the report builder on the QGIS plug-in, you need to provide security information provided in the log in/out procedure. Next you need to click on the report builder button shown in the red box below.



This will prompt an STDM builder dialog where you can select the various fields you need to build a report for.



Creating the report.

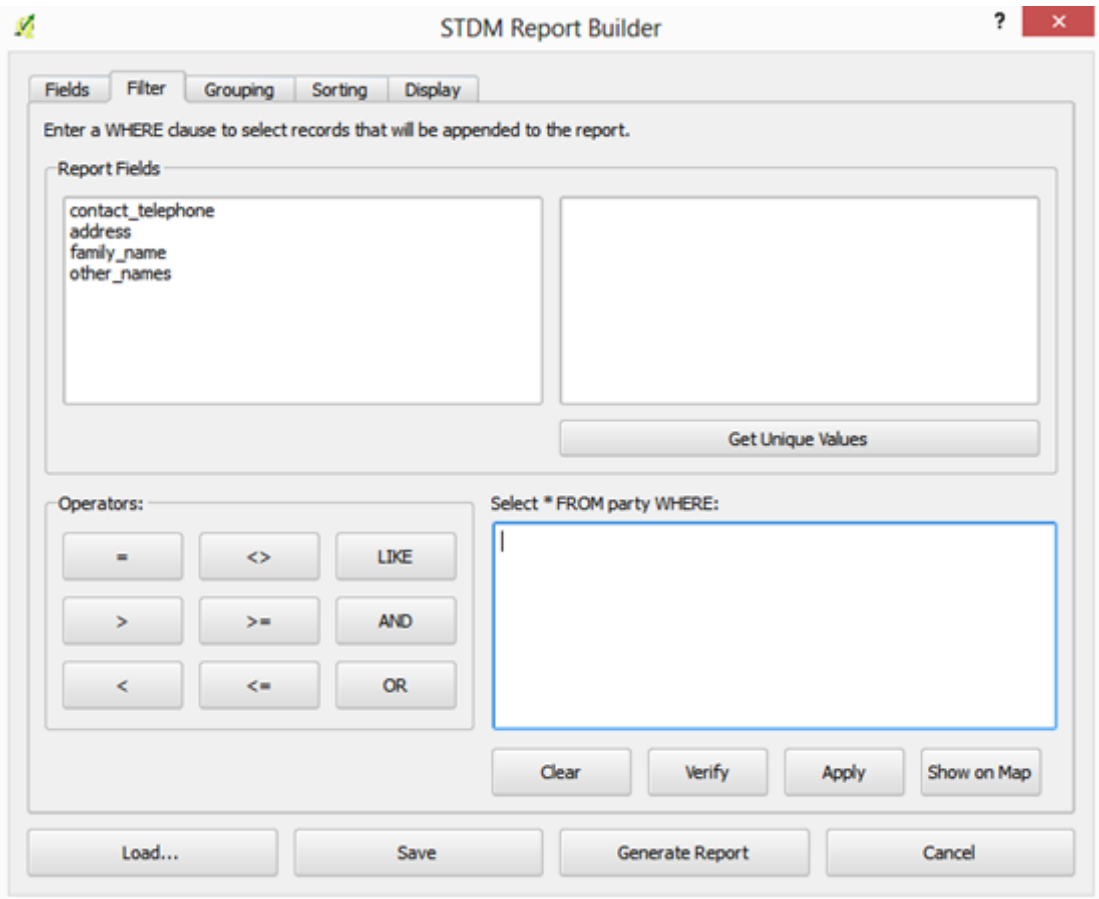
On the first tab of the builder(Fields)

- Select Entity/table from the drop-down menu and a list of available column in the selected entity/table will be listed in the available field's panel.
- Select the fields in the Available Fields list you want to include in the report.
- Use the arrow buttons , to move selected fields or all field respectively to the Report Fields panel on the right. This are the particular fields you intend to create the report on.

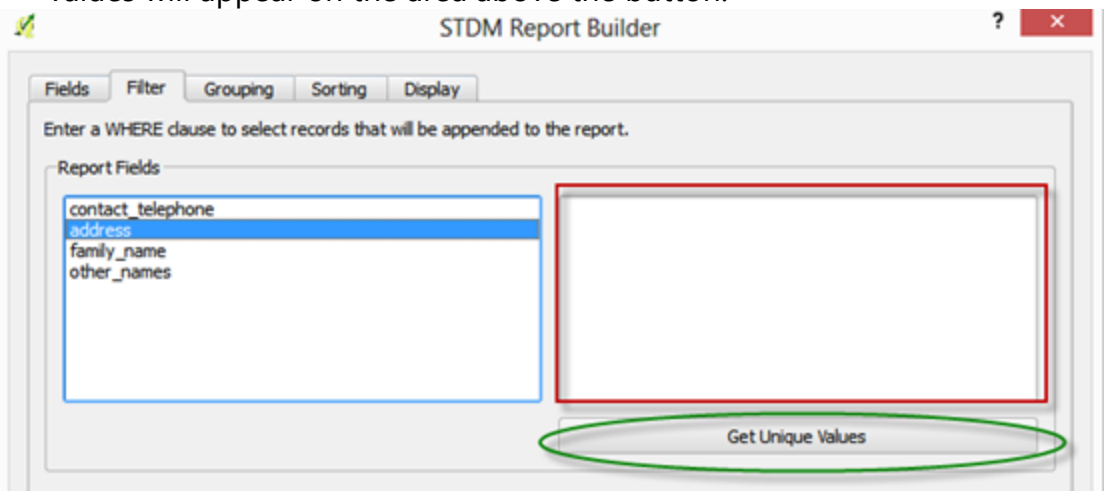
Filter tab option.

Click the Filter tab button if you want to create a report based on only selected features from the SQL query.

This feature helps you highlight certain aspects from the entities selected.

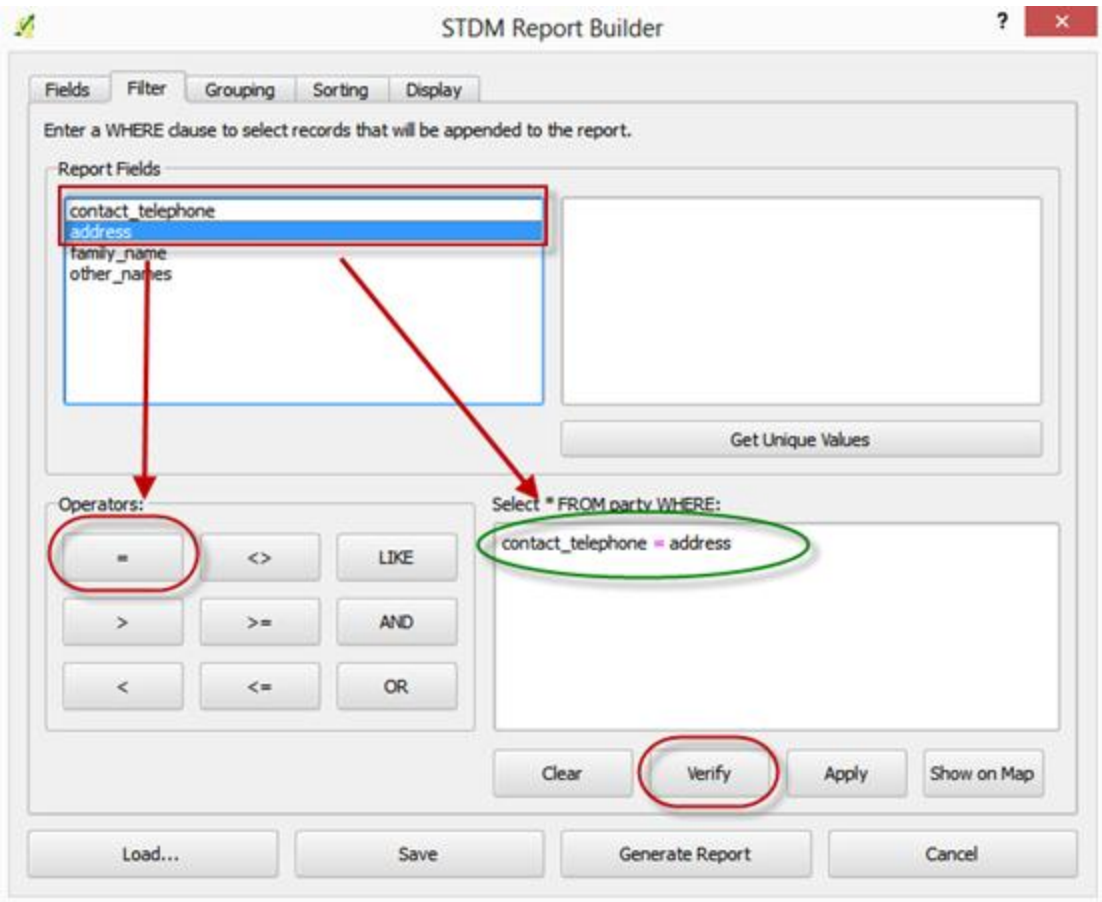


- The selected Report fields will appear on the top left corner.
- If the report fields contain any unique values relating to the actual field or a different field, you can click on the field then click the button **Get Unique Values** and the said values will appear on the area above the button.



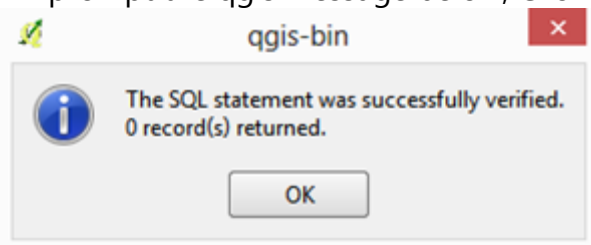
If there are no values available the field should appear blank.

- Report Fields selected may have some unique relationship with a second or subsequent field. To define the relationship, double click on one report field then click on an operator from the available operators that defines the relationship.

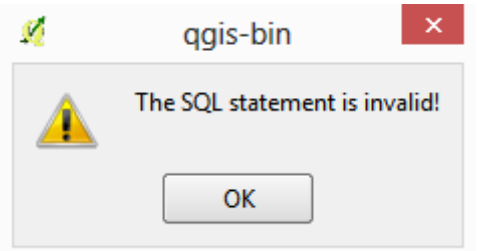


The selected report field should appear on the area enclosed in green with the selected operator defining the relationship. You can select any operator depending what the relation is between of among the variables.

- Next click on the **Verify** button shown above to verify the relation. That should prompt the qgis message below, Click on **OK** to complete the procedure.



- In-case the the verified relation is not accurate, the wizard will prompt the message below. Click **OK** and define the relation again with the appropriate parameters.



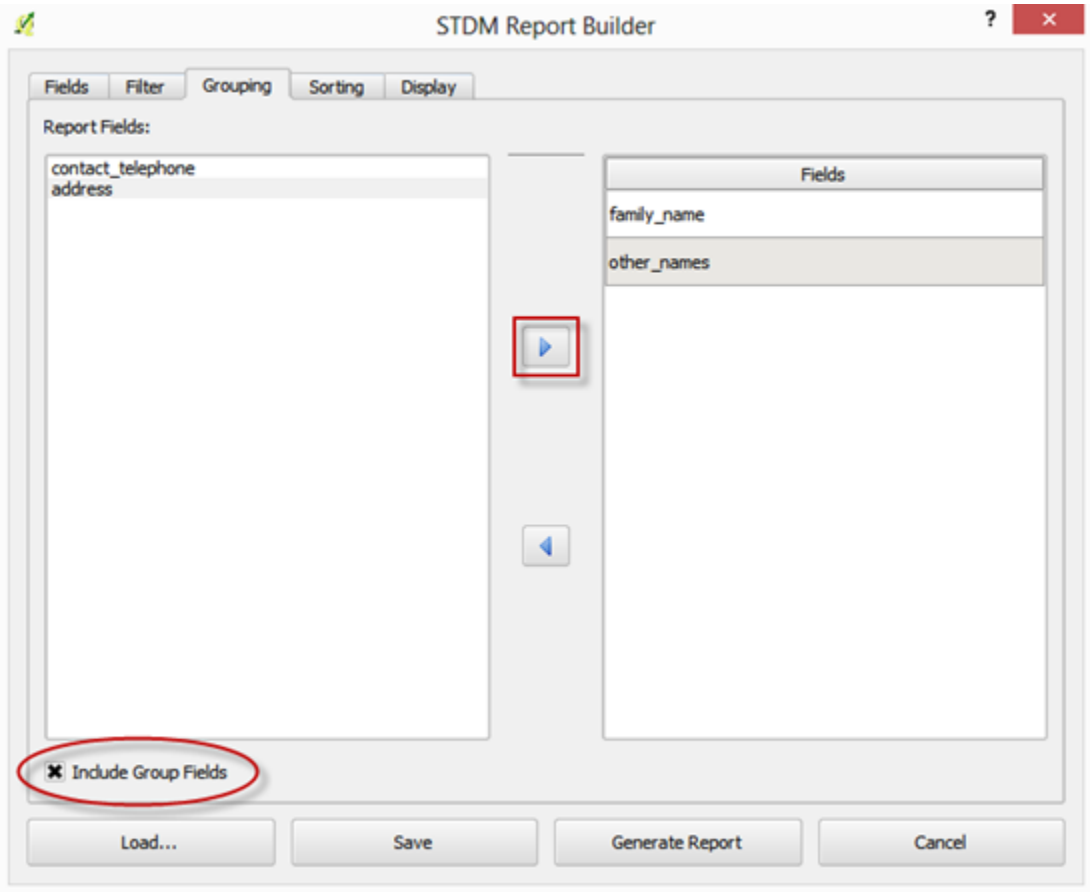
- The selected report values can be removed from the execution field by clicking on the button

.

Grouping.

The next tab is grouping, select this option when you want to group the report based on the selected report fields.

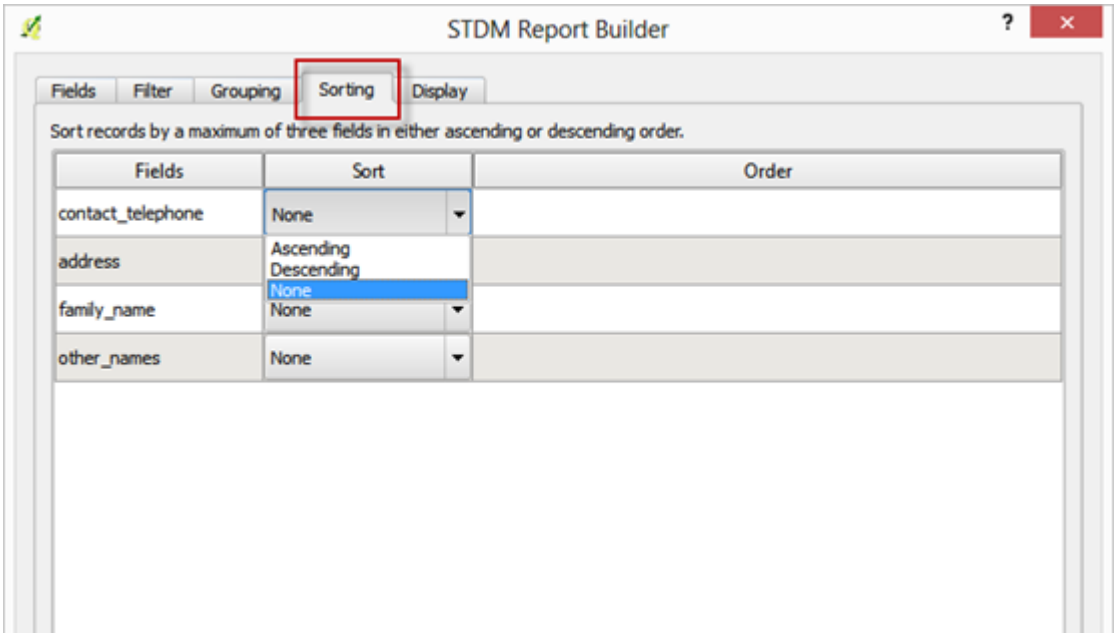
Choose a field name on the report fields and click the arrow buttons to group the report by the selected report fields.



- The fields to be grouped appear on the fields panel on the right side of the wizard.
- Check the **Include Group Fields** option circled above is you would like to include all group field information in the Grouped fields.
- To remove selected field names from the right hand panel, press the button.

Sorting.

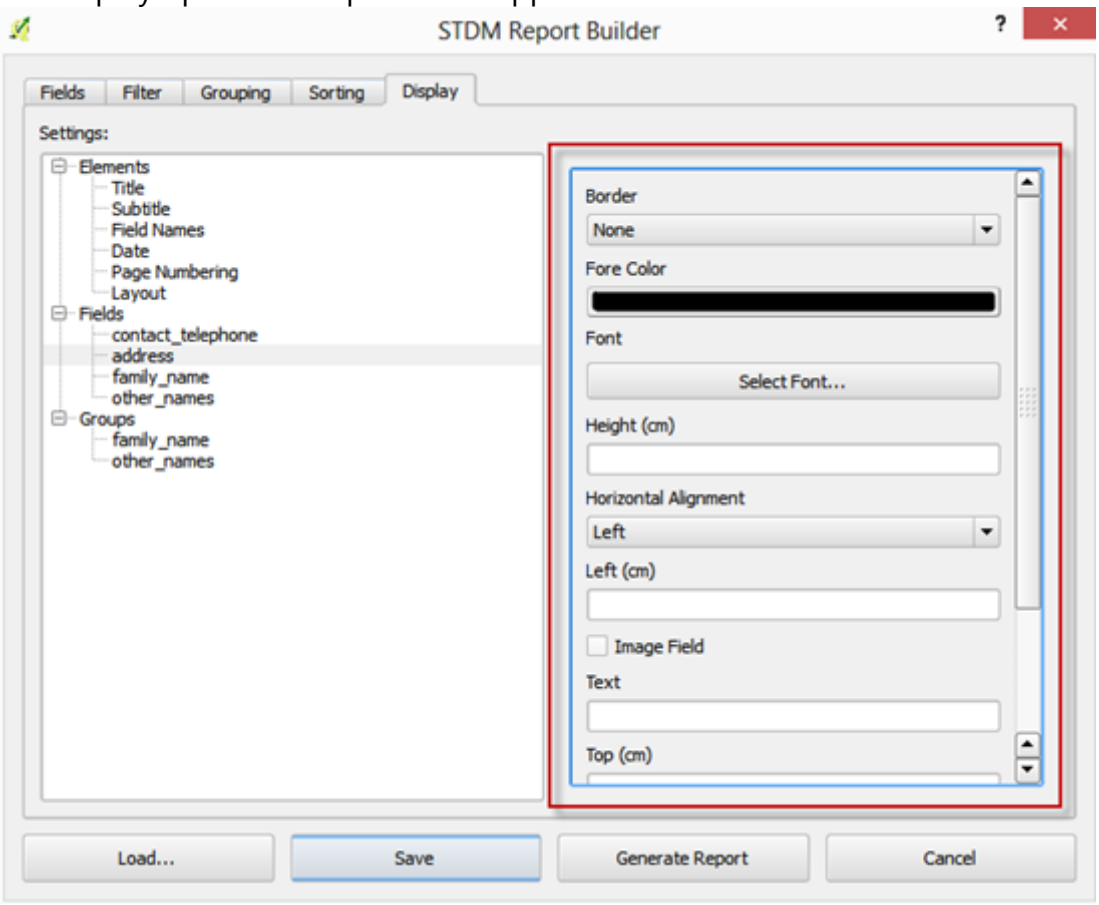
The sorting option will enable you to sort the field either in ascending or descending order.



The sorting is done for each of the selected fields.

Display.

The display option sets up the font appearance of the selected fields.



- Select an item on the left side from the set up field and execute its appearance from the settings options on the right side shown in a red box.
- Next you may opt to save the changes you have made for a later reference. to load the saved content you will need to press the **Load** button on the bottom left corner.

- After all the changes have been made, click on the **Generate Report** button to generate the the prepared report.